Pacific Salmon Commission

Established by Treaty between Canada and the United States
March 18, 1985
for the
conservation, management and
optimum production of
Pacific salmon

Sixteenth Annual Report 2000/2001

Vancouver, B.C.
Canada

January, 2002

PACIFIC SALMON COMMISSION

ESTABLISHED BY TREATY BETWEEN CANADA
AND THE UNITED STATES OF AMERICA
MARCH 18, 1985

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Our File:

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Letter of Transmittal

In compliance with Article II, Paragraph 14 of the Treaty between the Government of Canada and the Government of the United States of America concerning Pacific salmon, it is my pleasure as Chair of the Pacific Salmon Commission to present my compliments to the Parties and to transmit herewith the Sixteenth Annual Report of the Commission.

This report summarizes the activities of the Commission for the fiscal year April 1, 2000 to March 31, 2001.

On June 3, 1999 the Parties signed a comprehensive long-term agreement under the Pacific Salmon Treaty. The agreement established abundance-based fishery regimes for the major interception fisheries in the United States and Canada. The arrangements are all for ten years, except those for Fraser River sockeye and pink salmon, which are for 12 years. The agreement also established two bilaterally-managed regional funds, and included provisions to enhance bilateral cooperation, improve the scientific bases for salmon management and apply institutional changes to the Pacific Salmon Treaty. A summary of the agreement is available on the PSC website: www.psc.org.

Reports on the results of the 2000 fishing season presented by the Parties and on meetings of the Commission, the Standing Committee on Finance and Administration and the Northern and Southern Fund Committee are presented in summary. Executive summaries of documents prepared by Pacific Salmon Commission staff and the joint technical committees during the period covered by this report are also presented.

The Auditors' report on financial activities of the Commission during the fiscal year April 1, 2000 to March 31, 2001, as approved by the Commission, is also included in this report.

Yours truly,

D.M. Petrachenko
Chair

102-06698/

PACIFIC SALMON COMMISSION

OFFICERS for 2000/2001

Chair	Donna Petrachenko
Vice-Chair	David Benton

COMMISSIONERS

Canada	United States
Ms. Donna Petrachenko (Chair)	Mr. David Benton (Vice-Chair)
Mr. Hubert Haldane	Mr. Curt Smitch
Mr. Ron Fowler	Mr. W. Ron Allen
Mr. Gerry Kristianson	Mr. James Pipkin
Mr. Rich Chapple	Mr. Jev Shelton
Mr. Gibby Jacob (to November 23, 2000)	Mr. Rollie Rousseau
Mr. Paul Sprout	Mr. Larry Rutter
Ms. Christine Hunt (from November 24, 2000)	Mr. Donald Sampson

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SECRETARIAT STAFF

Executive Secretary	Mr. Don Kowal
Administrative Officer	Mr. Ken Medlock
Chief Biologist	Dr. Jim C. Woodey

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INTRODUCTION

Interception of Pacific salmon bound for rivers of one country in fisheries of the other has been the subject of discussion between the Governments of Canada and the United States of America since the early part of this century. Intercepting fisheries were identified through research conducted by the two countries on species and stocks originating from Alaska, British Columbia, Washington, Oregon and Idaho. The results of this research identified that Alaskan fishers were catching salmon bound for British Columbia, Idaho, Oregon and Washington. Canadian fishers off the West Coast of Vancouver Island were capturing salmon bound for rivers of Washington and Oregon. Fishers in northern British Columbia were intercepting salmon returning to Alaska, Washington, Oregon and Idaho, and United States fishers were catching Fraser River salmon as they travelled through the Strait of Juan de Fuca and the San Juan Islands towards the Fraser River.

Management of stocks subject to interception became a matter of common concern to both Canada and the United States. A mechanism to enable the countries to reap the benefits of their respective management and enhancement efforts was required. That mechanism is now provided through the Pacific Salmon Treaty, which entered into force upon the exchange of instruments of ratification by the President of the United States of America and the Prime Minister of Canada on March 18, 1985.

The Pacific Salmon Commission, guided by principles and provisions of the Treaty, establishes general fishery management regimes for international conservation and harvest sharing of intermingling salmon stocks. Each country retains jurisdictional management authority but must manage its fisheries in a manner consistent with the provisions of the Treaty. Implementation of the principles of the Treaty should enable the United States and Canada, through better conservation and enhancement, to prevent overfishing, increase production of salmon, and ensure that each country receives benefits equivalent to its own production. The Commission also serves as a forum for consultation between the Parties on their salmonid enhancement operations and research programs.

The organizational structure of the Commission is currently focused on four geographically oriented panels. The terms of new Treaty arrangements signed by the Parties in June, 1999 provided for the creation of a new Transboundary Panel. The Transboundary Panel's stocks of concern originate from the Alsek, Stikine and Taku River systems. The Northern Panel's stocks of concern are those which originate in rivers situated between Cape Suckling in Alaska and Cape Caution in British Columbia. The Southern Panel's stocks of concern are those which originate in rivers located south of Cape Caution, other than Fraser River sockeye and pink salmon. The Fraser River Panel has special regulatory responsibilities for stocks of sockeye and pink salmon originating from the Fraser River.

The functions of panels are to review annual post-season reports, annual pre-season fishing plans, and ongoing and planned salmonid enhancement programs of each country and to provide recommendations to the Commission for development of annual fishery regimes in accordance with the objectives of the Treaty. These plans, once adopted by the Commission and the governments, are implemented by the management agencies in each country.

The Fraser River Panel, in addition, has been accorded special responsibility for in-season regulation of Fraser River sockeye and pink fisheries of Canada and the United States in southern British Columbia and northern Puget Sound, in an area designated as Fraser River Panel Area Waters. Scientific and technical work is conducted for the Panel by the Fishery Management Division of the Commission's Secretariat staff.

Negotiations designed to lead to agreed fishery regimes were conducted at the government-to-government level commencing in the spring of 1998. A comprehensive agreement was reached by the Parties on June 30, 1999.

As a result of the agreement, long-term fishing arrangements are in place for ten years, except for Fraser River sockeye and pink salmon which is a 12 year arrangement.

With fishery arrangements in place, the meeting agendas for the Commission have concentrated on implementation of the elements of the new arrangements that will improve fisheries management and aid the countries efforts to recover weakened stocks. These provisions include establishment of two bilaterally-managed restoration and enhancement funds, provisions to enhance bilateral cooperation, improving the scientific basis for salmon management and applying institutional changes to the Pacific Salmon Commission.

The Commission meets at least once annually and conducts its business between meetings through its permanent Secretariat located in Vancouver, British Columbia. In the period April 1, 2000 to March 31, 2001, the Commission met on three occasions:

1. Special Commission Executive Session
   April 26-27, 2000 – Portland, Oregon

2. Commission Executive Session
   November 28-30, 2000 – Vancouver, B.C.

3. Post-Season Meeting of the Commission and Panels
   January 8-12, 2001 – Vancouver, B.C.

4. Sixteenth Annual Meeting of the Commission
   February 19-23, 2001 – Portland, Oregon

This, the Sixteenth Annual Report of the Pacific Salmon Commission, provides a synopsis of the activities of the Commission and its subsidiary bodies during its sixteenth fiscal year of operation, April 1, 2000 to March 31, 2001.

Activities of the Commission

PART I
ACTIVITIES OF THE COMMISSION

A. EXECUTIVE SESSION OF THE PACIFIC SALMON COMMISSION
April 26 - 27, 2000 – Portland, Oregon

The Commission met twice in Executive Session during this meeting. During the first session, the Commission was presented with the Endowment Fund Search Committee Report. In this report, the Committee put forth two recommendations which the Commission discussed and approved: that the Commission hire Hewitt and Associates as the Endowment Fund Investment Advisor; and, that the Commission prepare and send a letter requesting legal advice about the investment of the funds to appropriate legal counsels of both Parties for an immediate response.

Canada presented a report on Scientific Cooperation entitled *"Renewed Cooperation on Scientific and Institutional Matters: Options for establishing the Scientific Committee on Cooperation"*. After accepting revisions proposed by the United States, Canada agreed to put forward terms of reference for the Scientific Committee on Cooperation for bilateral approval with the intent to have the Committee named by February 2001.

The Commission approved recommendations presented by the Fraser River Panel in its report "Recommendations by the Fraser River Panel on Interpretation of Annex IV, Chapter 4". The Fraser River Panel had been asked to examine the draft agreement on Fraser River sockeye and pink salmon to ensure that there was an agreed upon bilateral interpretation of the Annex language. The Panel reviewed the Annex and provided advice to the Commission on six areas where it found the language to be incorrect or unclear. The outcome of the Panel's review was summarized in the report.

The Chinook Technical Committee (CTC) presented the results of its calibration analysis for 2000. A draft of the calibration document was available and the Committee presented a shortened version of that draft. Particular emphasis was placed upon the item in the document that dealt with ISBM (Individual Stock-Based Management Regimes) fisheries. It was noted that the CTC required policy interpretation of the language in paragraph 4(d) and 4(e) of the Chinook Annex. Attention was also called to the area of the report that deals with new estimates of Coded Wire Tag recoveries for 1975-1979 for the SEAK troll fishery.

The Commission discussed the progress made on the development of a new long-term fishing regime for southern coho. Both Parties emphasized the importance of this item and expressed a willingness to give it a high priority.

At its second session the Commission heard from the Ad Hoc Habitat Form and Function Committee. The Committee's actions and recommendations were summarized. It planned to select three stocks from each country and use them as pilots stocks for an annual report. The Committee would then make recommendations to the Commission about the usefulness of the report and about the Commission's establishment of a standing committee on habitat. The Committee proposed that its report and recommendations be reviewed by the Commission in January 2001.

Canada presented a report on dispute resolution that identified an approach that the Commission could take to attempt to clarify how technical dispute resolution would be conducted. The Commission agreed to Canada's proposal that, through a series of conference calls, a committee bilaterally work through the substantive issues that need to be addressed before further progress could be made. The committee would then present the Commission with a more definitive draft proposal on dispute resolution.

The CTC, at its second appearance before the Commission, circulated a paper that led to a lengthy discussion about the issue of the reliability of the calibration and the model used by the Chinook Technical Committee. Both Parties encouraged a review of the calibration and stressed that it should be done quickly. Several other issues surrounding chinook were discussed including ISBM fisheries and problems with WCVI chinook.

Mr. Pat Chamut's confirmed that it was his final meeting as a Commissioner. He announced that he was going to be replaced by Ms. Donna Petrachenko, Pacific Regional Director General for the Department of Fisheries and Oceans. He expressed his thanks to the Secretariat staff for their work over the years and thanked his fellow Commissioners for their cooperation and commitment to the resource.

The U.S. section thanked Mr. Chamut and stressed the vital role he played in the successful negotiation of the Agreement.

B. EXECUTIVE SESSION OF THE PACIFIC SALMON COMMISSION
November 28-30, 2000 - Vancouver, B.C.

At the Commission's first sitting, three newly-appointed Canadian Commissioners were introduced: Ms. Donna Petrachenko, Mr. Ron Fowler, and Ms. Christine Hunt. It was reported that effective November 27, 2000 Mr. Gibby Jacob had resigned as a Commissioner and that the Minister of Fisheries and Oceans would make a new appointment soon.

The Commission received a report about the Finance and Administration Committee's November 27th meeting. The main agenda items at that meeting were to review and finalize the budget for FY 2000/2001, to review the budget proposal for FY 2001/2002, and to review the forecast budgets for the subsequent two years. The Committee hoped to report back to the Commission at the January meeting.

The Executive Secretary presented the Commission's draft meeting schedule and pointed out that changes to the meeting schedule structure will be instituted in January 2002 when the Panels will hold separate meetings in separate locations. The Panels were instructed to consider their meeting schedules and meeting locations during the January 2001 session.

The Parties exchanged post-season reports (Details are provided in Section IV of this report).

The Commission discussed the development of a long-term fishing regime for southern coho and neither Party was satisfied with the progress being made. A small group met bilaterally and discussed how to put the development of an abundance–based regime back on track. The Commission accepted the group's proposal that a four-person group be formed, made up of two members from Canada and two from the U.S. The group was directed to develop a product that will be a framework for a new coho regime. The product would be completed and presented to the coho working group in January. The coho working group would review and modify the framework and it would then be presented to the Commission.

The Chinook Technical Committee (CTC) presented a memo summarizing its activities. The memo described the work that the Committee had accomplished since summer 2000, as well as its schedule of meetings and assignments for the remainder of 2000 through to September 2001.

The Commission discussed some of the difficulties that the CTC had in completing its assigned tasks. The Commission directed the CTC to prepare a formal report on the status of its assignments and to identify any impediments to completing its work. The Commission planned to review the report at its January 2001 meeting and make decisions on prioritizing CTC tasks at that time.

The Commission was presented with a letter from Alaska about the Chinook calibration. Alaska maintained that model improvements should continue, but only as an interim step. Its longer-term view is that the development of a model or a methodology that is more dependable, more reliable and more stable is needed. To that end, Alaska committed a sizeable amount of money to organize a team to try to develop a better model. Alaska solicited the participation of the other jurisdictions in this effort. It also alerted the other parties to its view that when re-calibrations are made using the existing model, or when the existing model is upgraded, the historical relationship between catch and abundance must be maintained.

The Commission discussed what to do in the interim while the longer-term process is under way. It asked the CTC to assist it in dealing with the interim to satisfy itself that it was not departing from the conceptual agreement that was approved in 1999. The Commission agreed that at its January meeting, there would be a technical update to assist it in focusing on the question of what to do in the interim period.

At the Commission's second bilateral session, the Northern and Southern Endowment Fund committees reported that they had met collectively in June, July and in September and, along with their consultants, had determined an asset allocation plan.

A committee of four members conducted interviews for fund managers. The fund managers selected were Putnam International Management based in Boston Massachusetts, for the International portfolio; Massachusetts Financial Services (MFS), also based in Boston, for the U.S. portfolio; and Barclays Global Investors based in Toronto, for the bond portfolio.

The Commission discussed the Terms of Reference for the Committee on Scientific Cooperation. The Commission agreed that each party would name its members to the Committee at the next Commission meeting and that the Committee would hold its first meetings at the February 2001 Commission meeting.

The Commission received an update about the progress of the Ad Hoc Committee on Habitat Form and Function. The Committee had planned to present a report to the Commission in January 2001 but it would not be able to do so. The Committee would present a revised task schedule, a list of key stocks, workshop dates and proposed workshop participants to the Commission in January.

The Commission received a report on the progress being made on the issue of dispute resolution. Canada had prepared a short illustrative list of items that might qualify as technical disputes. The list was distributed to a small committee that had been struck to examine the issue. The Committee had met initially by conference call and had agreed to a follow-up by meeting.

The Commission received a report on the progress of the Selective Fisheries Evaluation Committee and its two sub-committees: the Coordinating Sub-Committee, and the Analytical Work Group. The Analytical Work Group was preparing detailed assessments of the practical limitations of maintaining the viability of the Coded-Wire-Tag program if the Commission goes to mass marking selective fisheries.

The Commission instructed the Panels to follow their usual set of instructions. An item was added to the instructions given to the Northern Panel whereby the Panel was instructed to provide a status report to the Commission on the progress being made in completing its report on coho.

C. MEETING OF THE COMMISSION AND PANELS

January 8 - 12, 2001, Vancouver, B.C.

The Commission met twice in bilateral Executive Session during this meeting. At its first session, the Commission finalized the appointment of officers for 2000/2001.

The Finance and Administration Committee reported that it would bring the proposed budget for the next fiscal year to the Commission for approval at the February session.

The Commission adopted the Terms of Reference for the Committee on Scientific Cooperation. Canada nominated Dr. Laura Richards, head of the Canadian Department of Fisheries and Oceans Pacific Region Science Program, and Dr. Richard Beamish, Senior Scientist at the Department's Pacific Biological Station, as its members of the Committee. The U.S. agreed to forward its nominees by the February Commission meeting.

The Commission received an update from the Ad Hoc Committee on Habitat Form and Function. The Committee had reviewed and revised its draft report outline, reviewed and revised its task schedule, and set a date for a workshop. Stocks had been identified as potential candidates for the Committee's first pilot report. The Committee planned to have a draft report submitted to the Commission for comments by mid-June and to have a final report submitted in August.

The Commission received an update on the activities of the Northern and Southern Endowment Fund Committees. An investment strategy is in place, fund managers had been hired, and the monies would begin to be invested over the following month to six weeks. An interim report on the Committees' activities was almost complete and would be available to the Commission in February.

The Executive Secretary was directed to compile a handbook to be distributed to Commissioners and Endowment Fund Committee members that would contain the basic fund agreements, the Commission by-law changes that relate to the fund, the trust agreement, and other relevant administrative documents.

The Commission received an update on the U.S. appropriations legislation. On December 15, 2000, the U.S. Congress passed appropriations legislation that made money available for the Endowment Funds. The legislation provided $20 million for the each of the Endowment Funds for the current fiscal year, half of which is funded through the State Department and half through the Commerce Department. The bill also provided $20 million to fund the buy-back of licenses in Washington State related to the Fraser River fisheries and $54 million for salmon restoration work in the Pacific Northwest. The bill fully authorized the total amounts of both funds so that it provided for $75 million for the Northern Fund in FY's 2000-2003 and $65 million for the Southern Fund for FY's 2000-2003. It also provided $30 million for the buy-back program and authorized up to $100 million a year for coastal restoration.

The Commission received a report on the progress of the small coho-working group. The working group had developed a framework for an abundance-based management plan for southern coho but it did have some key policy issues it believed had to be resolved by the Commission before further progress could be made. The Commission discussed how to have these policy questions made reasonably clear so that they could be resolved at the February session.

The Commission instructed the small coho working group to develop a written draft of a specific coho management plan for southern coho with square brackets or blanks left where there were key policy issues that had yet to be resolved. The group was to consult, as appropriate, with the Coho Working Group and other parties. The document was to be forwarded to the Executive Secretary by February 5, 2001 for distribution to Commissioners, advisors, and other interested parties. The unresolved policy issues would be discussed during the February meeting.

At its second sitting, the subcommittee dealing with dispute resolution reported that it planned to review a paper on the issue that includes an illustrative list of issues that may qualify as technical disputes. Members would submit written comments to the Executive Secretary before the February meeting. During the February meeting the subcommittee would meet to consider the comments, to further discuss the paper, and would update the Commission on the progress that was being made on the initiative.

The Commission received its draft meeting schedule for 2002/2003. The Commission will tentatively meet in Portland, Oregon in January 7-11 2002, in Vancouver, BC from February 11-14 2002, in Vancouver, BC from November 19-21 2002, and in Portland, Oregon from February 10-14, 2003. The dates and locations for the Commission's January 2003 and its November 2003 meetings were yet to be announced.

The Commission directed the Executive Secretary to investigate holding the scheduled November 2001 session in Juneau in October or early November instead of in late November, in order to provide more time between Commission meetings.

The Chinook Technical Committee presented the Commission with a memo on its assignments and priorities. The memo addressed what the CTC intends to include in each of its assignments: stock assessment standards, escapement lower bound, effects of enhancement, recommend research projects, selective fisheries data, model improvements, overage/underage ranges, in-season adjustments, and description of technical components of the Chinook Chapter. The report also addressed other PSC workloads that affect CTC completion dates.

The Commission discussed the difficulties that the Chinook Technical Committee was experiencing in completing its assignments as well as its obligation to provide the CTC direction and to prioritize its assignments. The Commission agreed that each Party would undertake a review of the information from the CTC, and would be prepared to discuss how to move forward at the February meeting.

D. PACIFIC SALMON COMMISSION ANNUAL MEETING
February 19 - 23, 2001, Portland, Oregon

At its first session, the Commission discussed the need to have a process in place whereby the minutes of Commission Executive sessions are finalized and approved in a timely manner. The Commission directed the Editorial Board to formulate a set of rules and procedures for the approval of the minutes for comment during the next Commission meeting.

The Commission received an update on the progress of the small coho working-group. The group had tabled a document through the Commission in early February. This document recommended a technical process that would lead to policy choices that would ultimately have to be resolved before the parties could come to an agreement on a long-term abundance-based management approach for southern coho.

Concern was expressed over how much time it would take to complete the technical tasks identified in the document. It was decided that the process of coming to a long-term agreement should be accelerated. In order to do so, each party identified a team that was empowered to negotiate the terms of a multi-year coho agreement. The negotiating team was also asked to consider how to address the upcoming fishing season. The week of April 23 was tentatively set for its first meeting.

The Endowment Fund Committee reported that it had adopted its annual report. The Commissioners each received a copy of the Endowment fund-briefing book, which is intended to put all of the relevant information concerning the Endowment Funds together in one place.

The Commission received an update on the Ad Hoc Habitat Form and Function Committee's activities. The Committee recommended that in order to implement the provisions of the Habitat and Restoration Agreement, a standing committee should be responsible to oversee reporting provisions and advising the Commission on non-fishing factors affecting the production and productivity of stocks subject to the treaty. Recognizing that the Commission did not yet have enough information before it to make a decision on the establishment of a standing committee on habitat and restoration or to charge an existing standing committee with providing an annual report to the Commission, the Committee recommended, and the Commission agreed, that the Committee on Scientific Cooperation be assigned the following tasks:

1) Review the annual report of the Ad Hoc Committee on Habitat Form and Function and provide advice to the Commission in a written review of the report to be presented in October 2001;

2) Prepare recommendations, in consultation with the Ad Hoc Committee, on the following two options to be submitted to the Commission in August 2001 for its consideration:

    a) The Committee on Scientific Cooperation be permanently assigned to continue to oversee, coordinate, and report annually on stocks for which harvest controls alone cannot restore optimum production and provide advice to the Commission non-fishing factors affecting the safe passage and optimum production of salmon

OR

    b) [Establish] the functions (terms of reference) and organization of a Standing Committee on Habitat and Restoration.

The Commission adopted a policy paper on dispute resolution that includes an illustrative list of items that may qualify as technical disputes.

Dr. Laura Richards and Dr. Richard Beamish, Canada's members of the Committee on Scientific Cooperation (CSC), were introduced to the Commission. It was announced that the CSC representative from the U.S. north is Dr. John H. Clark and the representative from the U.S. south is Dr. David Hankin of Humboldt State University. The CSC had met the previous day to familiarize itself with the structure of the Commission. The Committee planned to meet by conference call the following week in order to try to focus its activities.

The Commission received a summary of the Finance & Administration Committee's report and accepted the Committee's budget recommendations.

The Commission adopted the following proposed meeting schedule: October 16–18, 2001 Juneau, Alaska; January 7–11, 2002 Portland, Oregon; February 11–15, 2002 Vancouver, British Columbia; November 19–21, 2002 Vancouver, British Columbia; January 13-17, 2003 Vancouver, British Columbia; February 10 –14, 2003 Portland, Oregon.

The Commission, at a future meeting, will discuss the possibility of moving the November 2002 session to October 2002.

The Commission received a report from the Chinook Technical Committee entitled *Clarification of Footnote 3 of the Chinook Chapter*. The Commission received a memo from the CTC about the *Calibration Process for 2001 Fishing Plans* and accepted the CTC's recommendation with regard to using a calibration similar to #9812 for the coming fishing season.

The Commission discussed the difficulties that have surrounded the completion of PSC tasks that is particularly evident when dealing with chinook. In order to address this issue, the Commission decided to establish a small group to scope out how to review the Commission's performance regarding its abilities to deal with issues surrounding chinook, including data collection. The group was directed to prepare a report at its convenience that will be presented to the Commission at its October 2001 meeting.

The Commission received a presentation from the Fraser River Panel and Commission staff entitled the *Problem of Early Upstream Migration of Late-Run Fraser River Sockeye Salmon.* In the presentation, the problem and its potential impacts were outlined. The Commission resolved that it would inform the Parties as to the nature and implications of the early migration of late run Fraser sockeye into fresh water; alert them as to the steps taken in an effort to diagnose the problem; and urge their support of urgent efforts to conduct the work necessary to ensure an early understanding of this phenomenon, its causes, and possible responses.

The Commission received the Technical Data Sharing Committee 2000 Annual Report. Particular emphasis was placed upon the section in the report that deals with the Committee's concerns about the adequacy of current tagging and sampling programs.

The Commission discussed this issue and expressed its concerns that the reliability of estimates derived from the coded-wire-tag (CWT) system may be diminished or deteriorating in light of current resource status and new management regimes. The Commission asked that the Committee on Scientific Cooperation discuss this matter with the Commission's technical committees, with a view towards advising the Commission on whether this problem needs to be addressed and, if so, on an appropriate course of action, including whether new data standards are needed in order to maintain the reliability of estimates derived from the CWT program. The Commission asked that the Science Committee provide an initial report in February 2002.

It was revealed that it was Mr. Benton's final meeting as a Commissioner. The parties both thanked Mr. Benton for his contributions to the Commission. Mr. Benton expressed his thanks to Canada and to the U.S. Section and wished them all the best.

Activities of the Standing Committees

PART II
ACTIVITIES OF THE STANDING COMMITTEES

A. MEETINGS OF THE STANDING COMMITTEE ON FINANCE AND ADMINISTRATION

1. Committee Activities

The Committee met on November 27, 2000 and January 8, 2001 in Vancouver, B.C. and February 22, 2001 in Portland, Oregon to consider a range of financial and administrative issues. The Committee" deliberations focused primarily on a review of the Commission's current financial status, budget proposals for FY 2001/2002 and a budget forecast for FY 2002/2003.

The Committee, on November 27, 2000 reviewed staff projections of expenditures for the current fiscal year. The Committee requested staff to prepare supplemental material on three topics. The tops were: 1) identify the schedule phase out gillnet test fishery, and identify how many fish would be saved; 2) prepare succession plan options to fill the chief biologist position; 3) prepare budget options to identify three scenarios: no increase in contribution; one-half increase in contribution; and a full increase in contribution for FY 2001/2002.

At the January 8, 2001 meeting, the committee reviewed the supplemental material prepared by the staff and approved option2 of the success plan for the chief biologist which in summary approved a one month work period overlap for the new incumbent. As well they approved a proposal that contract money be set aside in FY 2002/2003 to engage the current chief biologist on a short-term work contract for succession planning. The committee requested the opportunity to better understand the base budget of the Commission and postponed any decision on budget approval until the February session.

At the February 22, 2001 meeting, the Committee approved the Commission budget at the level of $1,179,000 per party. The represents an increased contribution over last year of $173,000. The Committee recommends acceptance of this budget.

The Committee also approved the establishment of a modest revolving test fishing fund in the amount of $50,000. This adheres to the policy established last year to move away from relying on test fishing surpluses to support basic programs.

The Committee has also allowed for the establishment of a $50,000 special project fund to seed startup programs to investigate the problem of early arrival of Late-run Fraser River stocks.

This completes the report of the Standing Committee on Finance and Administration. The Committee is pleased to recommend adoption of this report by the Commission.

2. Secretariat Staffing Activities

A list of Secretariat staff employees as of March 31, 2001 is presented in Appendix G.

An updated membership list for panels, standing committees, joint technical committees and ad hoc working groups as of March 31, 2001 is presented in Appendix H.

B. MEETINGS OF THE STANDING COMMITTEE ON SCIENTIFIC COOPERATION

The Commission approved the Terms of Reference for the Standing Committee on Scientific Cooperation at the January 10-11, 2001 meeting held in Vancouver, B.C. The terms of Reference can be found in Appendix C of this report.

The newly appointed members to the Committee met with the Commission at the Sixteenth Annual Meeting of the Commission held in Portland, Oregon in February 2001. The committee, at its initial session agreed to concentrate on the following work areas: non-fishing mortality, Late-run sockeye, data sharing (coded-wire tag concerns), the PSC scientific agenda and meeting with PSC standing and technical committee co-chairs.

C. MEETINGS OF THE NORTHERN AND SOUTHERN FUND COMMITTEES

The Committees met on numerous occasions throughout the year in joint and in separate Northern and Southern Committee sessions. The focus of the year by the two committees was on fund governance, administrative and investment policy development, and related foundational issues. The initial annual report of the Fund Committees can be found in Appendix B.

Activities of the Panels

PART III
ACTIVITIES OF THE PANELS

A. FRASER RIVER PANEL

The Fraser River Panel completed the 2000 fishery management plan for Fraser River sockeye and pink salmon in Panel Area waters on May 23, 2000. The Panel carried out its in-season fishery management responsibilities as per Annex IV, Chapter 4. Commission staff conducted its regular in-season assessment programs and reported results to the Panel.

The Panel met in bilateral session during the January and February 2001 meetings of the Commission to review the results of the 2000 fishing season, to receive reports from Canada on spawning escapements and to discuss issues of concern for the 2001 fishing season. Commission staff reviewed the concerns regarding the potential for continued early upstream migration behavior of Late-run sockeye and identified specific areas of fishery impacts.

In February 2001, the Fraser River Panel sponsored a workshop that was attended by leading scientists from Canada and the United States on the early upstream migration timing of Late-run sockeye. Several study proposals were subsequently funded by the PSC from its budget and from monies contributed by the United States Government.

B. NORTHERN PANEL

The Northern Panel met during the January 2001 session of the PSC and again at the February Annual Meeting. The Panel reviewed the conduct of the 2000 fisheries.

C. SOUTHERN PANEL

During the 2000/2001 fiscal year, Southern Panel discussions were focused on the continuing negotiations over implementation of the Coho Annex (Chapter 4) of the Pacific Salmon Treaty. These discussions were based upon work products of a bilateral, coho working group established during the previous fiscal year. Membership in this small working group included DFO representatives Greg Savard, Ron Kadowaki and Blair Holtby, and U.S. representatives Pat Pattillo and Gary Morishima. Formal sessions of the bilateral Southern Panel were held at the Pacific Salmon Commission meetings in January and February.

Southern Panel related activities, including those of the small coho work group, over the past year are summarized as follows:

1) Post-Season Fishery and Stock Status Reports

Post-season fishery reports with preliminary reporting of catches and spawning escapements, where available, were developed by the parties and exchanged at the December Executive Session.

2) Coho Management Planning

The Southern Panel convened a bilateral session at the January meeting of the Pacific Salmon Commission, in Vancouver, B.C., during the week of January 9-12.

Southern Panel members reviewed the 2000 post-season fishery reports and exchanged views on the conduct of the fisheries, as well as the general and preliminary status of coho and chinook stocks of concern to the Panel.

The Southern Panel met bilaterally with members of the small coho work group at different sessions during the week (January 9 to 12) to review and understand the strategy for implementing the Coho Annex of the 1999 Treaty.

The small coho work group members convened at the February meeting of the Pacific Salmon Commission, in Portland, Oregon, during the week of February 19. Work group members participated in bilateral and national section sessions with Commissioners exploring the potential for success in implementing the coho management plan during 2001. Continuation of coho annex negotiations was planned for April, 2001.

D. TRANSBOUNDARY PANEL

This report had not been received by March 31, 2001.

Review of 2000 Fisheries and Treaty-Related Performance

PART IV
REVIEW OF 2000 FISHERIES AND TREATY-RELATED PERFORMANCE

The following review has been drawn from a number of reports prepared by Commission staff, joint technical committees, and domestic agencies for presentation to the Commission. Source documents are referenced for each part of this review. All figures are preliminary and will be updated in future reports as more complete tabulations become available.

A. FRASER RIVER SOCKEYE SALMON

The U.S. share of the annual Fraser River sockeye salmon total allowable catch (TAC) to be harvested in the waters of Washington State was 20.4%. The Fraser River Panel developed a pre-season fishing plan based on: a conservative (75% probability level) forecast return of 2,296,000 sockeye and an escapement target of 1,179,000 sockeye; a forecast of diversion through Johnstone Strait of 30%, and a forecast of slightly earlier than average timed returns for Early Stuart and Summer stock groups. The pre-season planning process was robust in 2000 as it included potential fishing plans as a contingency for returns above the conservative forecast.

The in-season TAC calculation included management adjustments for Early Stuart and Early Summer sockeye stock groups to account for natural, environmental, and stock assessment factors in order to increase the probability that escapement target levels were reached.

Additional elements of the Canadian fishing plan addressed conservation concerns for other species, a provision for fulfilling obligations to First Nations both in and outside the Fraser River, a commercial allocation structure, a provision for recreational fishing opportunities, and a provision for selective fishery programs.

To address the continuing concern for Thompson River coho in 2000, that required a target of zero mortality in all fisheries, a series of restrictive measures were implemented in all fisheries that were expected to encounter coho salmon. Time, area, and gear restrictions, and prescribed fishing practices were included in regulatory provisions of most fisheries. Area B seine and Area E gillnet fisheries were excluded from Juan de Fuca Strait; and the Area E gillnet fishery in SOG and Fraser River was restricted to openings in periods prior to early September. Recreational and aboriginal fisheries were also subjected to complementary restrictions. Conservation measures were also implemented in Johnstone Strait to address Nimpkish sockeye salmon concerns, and in the Fraser River to address steelhead and Harrison River chinook salmon concerns.

Given the relatively low return at the conservative forecast level, the majority of fishing opportunities were expected on the Mid-summer stock group by U.S. commercial fisheries and by Canadian First Nations. Canadian commercial, recreational, and selective fisheries were only expected if the returns were significantly above forecast.

Returns of all stock groups were significantly above forecast and as a result, management of fisheries changed during the season from the pre-season plan. In Canada, commercial, recreational and selective fisheries were provided opportunities in addition to the First Nations fisheries. Unlike recent years, environmental conditions for migration appeared to be satisfactory. For Late runs, however, migration timing into the Fraser River was the earliest on record, and major pre-spawning mortalities associated with this early entrv and parasitic infestations occurred.

Based on preliminary estimates of catch and the PSC staff's in-season assessment of gross escapement to the Fraser River, the sockeye return (forecast in parentheses) was 4,541,000 (2,296,000), comprised of 366,000 (157,000) Early Stuart, 923,000 (289,000) Early Summer, 2,455,000 (931,000) Summer, and 796,000 (286,000) Late run sockeye.

Preliminary estimates of Fraser River sockeye catch totalled 2,394,000 fish: 953,000 fish in Canadian commercial fisheries (not including aboriginal pilot sales); 494,000 fish in U.S. Treaty Indian and non-Indian fisheries in Washington state; 0 in Alaska; and, 811,000 fish in Canadian First Nation fisheries. The remaining catch of 121,000 sockeye was accounted for in Canadian selective fisheries (15,000), Canadian recreational fisheries (24,000), and test and charter fisheries (97,000).

Canada has released preliminary information on sockeye spawning escapements. Preliminary estimates are: 90,000 Early Stuart, 568,000 Early Summer, and 1,554,000 Mid-summer Run sockeye.

B. 2000 POST-SEASON REPORT FOR CANADIAN TREATY LIMIT FISHERIES

Fisheries in 2000 were conducted according to Annex IV arrangements under the Pacific Salmon Treaty that was agreed to between Canada and the United States in June, 1999. The conservation-based approach commits the two Parties to abundance-based management for all stocks covered by the Treaty.

Catches reported below provide the best information available to date, and may change when all catch information for 2000 has been received. The catches are based on in-season estimates (hailed statistics), on-the-grounds counts by Fisheries and Oceans Canada management staff and independent observers, logbooks, dockside tallies, and landing slips (aboriginal fisheries), fish slip data (commercial troll and net), and creel surveys, logbooks, observers (sport and commercial).

Annex fisheries are reported in the order of the Chapters of Annex IV. Comments begin with expectations and management objectives, followed by catch results by species, and where available and appropriate, escapements. The expectations, management objectives, catches and escapements are only for those stocks and fisheries covered by the Pacific Salmon Treaty (PST); domestic catch allocations have been excluded. Two tables attached at the end of this report summarize 1991-2000 catches in Canadian fisheries that have at some time been under limits imposed by the Pacific Salmon Treaty.

Transboundary Rivers

Stikine River

Canada developed a fishing plan for the Stikine River based on the catch sharing arrangements outlined in Annex IV, Chapter 1, Paragraph 3 of the PST. Accordingly, the objectives of the 2000 management plan were as follows: to harvest 50% of the total allowable catch (TAC) of Stikine River sockeye salmon in existing fisheries; to allow additional sockeye harvesting opportunities in terminal areas to target sockeye salmon that were surplus to spawning requirements; to harvest 4,000 coho salmon in a directed coho fishery; and, to allow chinook salmon to be taken in the commercial fishery only as an incidental catch in the directed fishery for sockeye salmon. The 2000 season opened on 25 June, statistical week 27, one week later than normal due to the expectation of a below average run of Tahltan Lake sockeye salmon, and ended in statistical week 37 (week ending September 9).

Sockeye salmon

The preseason forecast of returning Stikine sockeye salmon, as provided by the Transboundary Rivers Technical Committee (TRTC), was 138,000 fish, including 51,000 Tahltan Lake origin sockeye (44,000 wild and 7,000 enhanced), 21,000 enhanced Tuya Lake origin sockeye, and 66,000 non-Tahltan wild sockeye. For comparison, the previous 10-year (1990-1999) average terminal[1] run size was approximately 200,000 fish.

A total of 27,460 sockeye was caught in the combined Canadian commercial and aboriginal fishery; 77.8% of the catch occurred in the commercial fishery. The total catch was approximately 37% below the previous 10-year average (1990-1999) of 43,500 sockeye. The preliminary estimate of the total contribution of sockeye from the Canada/U.S. enhancement program to the combined Canadian aboriginal and commercial fisheries is 12,700 fish, close to 46% of the catch. An additional 1,263 sockeye salmon were taken by the Tahltan First Nation under an "Excess Salmon to Spawning Requirements License" (ESSR) which permitted the terminal harvest of enhanced sockeye in the Tuya River. Fishing effort in the commercial fishery was significantly reduced in 2000 due to conservation concerns. A total of 23.25 days was fished, 59% below average, and the total effort amounted to 227 boat-days, which was 42% below average.

A total of 6,076 sockeye salmon was counted through the Tahltan Lake weir in 2000, which was 83% below the previous 10-year (1990-1999) average of 35,500 sockeye. An estimated 623 (10%) of the fish originated from the enhancement program. Of the total number of fish enumerated through the weir, 868 females and 837 males were collected for hatchery brood stock. In addition to the brood stock collection, 406 sockeye salmon were sacrificed for otolith collection leaving a spawning escapement of 3,964 fish. This escapement is well below the spawning escapement goal of 20,000 fish (target range 14,000 to 26,000) for Tahltan Lake sockeye salmon.

The spawning escapements for the non-Tahltan and Tuya sockeye stock groups are estimated indirectly by computing the ratio of Tahltan-to-non Tahltan and Tahltan-to- Tuya components in the total in-river sockeye run. Preliminary post-season escapement estimates include approximately 19,700 non-Tahltan fish and 12,400 Tuya fish based on egg diameter measurements and otolith thermal mark ratios. The preliminary estimate for the non-Tahltan sockeye escapement is 34% below the escapement goal of 30,000 fish (target range 20,000 to 40,000) for this stock grouping, and 49% below the previous 10-year (1990-1999) average of 38,836 sockeye. The final postseason estimate will be computed after the results from postseason stock identification studies have been completed. Aerial surveys of non-Tahltan sockeye escapement index areas indicated a below average number of spawners although survey conditions were poor. The 2000 cumulative spawning index count was 60% below the previous 10-year average.

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[1] Terminal run size estimate excludes U.S. interceptions that occur outside of the District 108 and 106 gillnet fisheries.

Based on the inriver run reconstruction of the Tahltan Lake run expanded by run timing and stock ID data in the lower river and estimated harvests of Stikine sockeye in US terminal gillnet fisheries, the preliminary post-season estimate of the terminal sockeye run size is approximately 101,000 fish. This estimate includes 22,000 Tahltan Lake sockeye, 40,000 Tuya Lake sockeye, and 39,000 sockeye of the non-Tahltan stock aggregate. A Stikine run size of this magnitude is 50% below the 1990-1999 average terminal run size of 200,000 sockeye salmon. The preliminary post-season estimate of the Canadian TAC for 2000 is approximately 9,100 sockeye, well below the actual catch of 27,460 sockeye.

In-season management was influenced significantly by forecasts derived from the Stikine Management Model (SMM) which was updated and refined by the Transboundary Technical Committee prior to the season. The model is based on the historical relationship between cumulative catch per unit effort (CPUE) and run size and provides three sets[2] of independently generated forecasts: one set based on US District106 CPUE, another based on Canadian inriver commercial CPUE, and the last based on Canadian test fishery CPUE. The in-season forecasts exhibited a wide range in 2000. The forecasts generated from the D-106 CPUE data were consistently higher than those derived from inriver CPUE data whereas, the forecasts based on inriver test fishery data were consistently the lowest. However, historically the forecast that statistically has the best fit is the one derived from the inriver commercial fishery and it was this forecast that the Parties agreed to use in-season (except for week 28 when it was agreed the test fishery data would be used). In-season, it seemed reasonable to follow the forecasts derived from the inriver commercial CPUE since they tended to be mid-way between those developed from the other datasets. However, it appears from the preliminary post season analysis, that the forecasts based on commercial CPUE significantly overestimated the run size and TAC in 2000.

Although the preliminary post-season estimates of run size and TAC are at the lower end of the range of predictions generated by the SMM, i.e. those based on test fishery data, they were well below the predictions that were selected for use in-season, i.e. those based on inriver commercial CPUE. The run size and TAC projections that were selected from the SMM progressively decreased throughout the season from peak in-season estimates of 179,600 total run and 38,800 Canadian TAC in week 29 (week ending July 15). The final in-season forecast generated by the SMM indicated a run size of approximately 149,600 sockeye and a TAC for Canada of approximately 23,400 sockeye. According to this forecast, the Canadian catch exceeded the Canadian TAC by about 4,000 sockeye.

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[2] Each set of forecasts includes predictions of the terminal run size of all Stikine sockeye, the Tahltan stock, the Tuya stock and the mainstem stock conglomerate.

A new sockeye mark-recapture program was initiated in 2000 to explore the feasibility of developing an alternate abundance-based management regime for Stikine sockeye. The preliminary estimate of the total inriver run size is approximately 150,400 sockeye salmon. This estimate is more than double the inriver run estimate of 69,100 sockeye, which is based on the traditional method of reconstructing the inriver Tahltan run then expanding it using stock ID and run timing data. Further analysis is required to investigate why the estimates are so far apart.

Coho salmon

Poor sockeye and coho catches in the lower Stikine commercial fishery throughout August and early September contributed to low fishing effort during coho season. This, combined with poor coho salmon prices, resulted in the third lowest catch of coho salmon since 1979. The total catch for the season was 301 coho, 85% below the 1990-1999 average of 2,100 coho salmon. All but three of the coho were taken in the lower Stikine commercial fishery.

To assess the abundance of salmon in the lower Stikine River, a coho salmon mark-recapture program was initiated 2000. The preliminary estimate of the number of fish reaching the border is 26,190 coho salmon. Subtracting the inriver catches of 298 coho in the commercial fishery, 3 coho in the First Nation fishery and 436 coho in the test fishery, leaves a potential total spawning escapement of approximately 25,453 coho. This estimate falls below the interim escapement goal range of 30,000 to 50,000 coho salmon. Low coho abundance was also observed in spawning index streams. For example, the combined count from surveys of two reliable indices, Scud and Porcupine rivers, was 301 fish, 73% below the previous 10-year average.

Chinook salmon

The total gillnet catch of chinook salmon in the combined aboriginal and commercial fisheries included 3,085 adults and 628 jacks compared to 1990-1999 averages of 2,287 large chinook and 577 jacks. The count of 6,640 large chinook salmon through the Little Tahltan River weir was 18% above the previous 10-year average of 5,643 large fish and double the revised Little Tahltan River escapement goal of 3,300 chinook salmon. The count of jack chinook salmon was 108 fish, 25% below the previous 10-year average of 143 fish. Preliminary results from the Stikine River chinook mark-recapture program suggest a total system wide spawning population of 28,600 chinook salmon. This estimate is close to the upper end of the escapement goal range of 14,000 to 28,000 chinook salmon established by the Technical Committee.

Joint sockeye enhancement

Joint Canada/U.S. enhancement activities continued in 2000 with approximately 2.44 million sockeye eggs collected at Tahltan Lake and flown to the Port Snettisham hatchery in Alaska for incubation and thermal marking. The egg collection target of 6.0 million eggs was not achieved because of below average escapement into Tahltan Lake. Approximately 2.228 million fry were out-planted into Tahltan Lake and 0.867 million fry into Tuya Lake in 2000. The fry originated from the 1999 egg-take at Tahltan Lake and were mass-marked in the hatchery with thermally induced otolith marks. A total of approximately 619,300 sockeye smolts was enumerated emigrating from Tahltan Lake in 2000, 49% below the 1990-99 average smolt count of 1,202,500 sockeye. The preliminary estimate of the contribution of enhanced sockeye to this count is 263,700 fish constituting 43% of the total count.

Taku River

As with the Stikine River, the fishing plan developed by Canada for the Taku River was based on the arrangements in Annex IV, Chapter 1, Paragraph 3 of the Pacific Salmon Treaty. Accordingly, the plan addressed conservation requirements and contained the following harvest objectives: to harvest 18% of the TAC of wild Taku River sockeye salmon plus up to 20% of the sockeye escapement in excess of 100,000 fish; to attain a 50% share of the catch of enhanced Taku River sockeye; to harvest 3,000 to 10,000 coho salmon, depending on in-river run size forecasts, in a directed coho fishery; and, to allow commercial chinook catches to be taken only incidentally in the directed sockeye fishery. The 2000 season opened on 18 June, statistical week 26, and ended in statistical week 37 (week ending September 9).

Sockeye salmon

The Canadian pre-season forecast was for a sockeye run of approximately 273,000 sockeye, 15% above than the previous 10-year average run size of approximately 236,500 sockeye.

The 2000 Canadian sockeye catch totaled 28,149 sockeye, 28,009 of which were caught in the commercial fishery. The commercial catch was 2% above the 1990-1999 average of 27,600 sockeye. Enhanced sockeye returns were expected to be low in 2000. The preliminary estimate of the contribution of sockeye salmon from the Canada/U.S. enhancement program to Canadian fisheries is 361 fish.

The estimated total escapement of 75,800 sockeye salmon in the Canadian section of the Taku River, derived from post-season analyses of Canada/U.S. mark-recapture data, is near the mid-point of the interim escapement goal range of 71,000 to 80,000 fish. Compared to previous estimates, the preliminary estimate for 2000 is 26% below the 1990-1999 average of 102,400 sockeye. Based on weir counts, escapements to the Little Trapper, Tatsamenie and Kuthai lake systems were 11,801, 7,429 sockeye and 4,096, respectively. The Little Trapper count was 3% above the 1990-1999 average and the Tatsamenie count was 11% above average. The Kuthai Lake count was 15% below the 1992-99 average.

In-season projections of the total run size, TAC, and total escapement were made frequently throughout the season based on the joint Canada/U.S. mark-recapture program, the estimated interception of Taku River sockeye in U.S. fisheries, the catch in the Canadian in-river fishery, and historical run timing information. The final in-season forecast indicated a total run of approximately 282,300 sockeye and a total spawning escapement of approximately 98,000 sockeye. The preliminary post season estimate of total run size is approximately 232,100 wild sockeye with a TAC of 152,100 to 161,100 sockeye. Preliminary analysis indicates that the Canadian sockeye catch represented 17.3-18.3% of the TAC. The preliminary estimate of the total Canadian and US combined harvest of enhanced Taku sockeye salmon is approximately 2,000 fish of which Canada harvested 19%.

Coho salmon

The commercial coho catch of 4,395 fish was approximately 25% below the 1990-1999 average catch of 5,900 coho salmon. Of this harvest, 3,668 coho were taken in the directed coho fishery, i.e. after week 33. Preliminary mark-recapture data indicated a spawning escapement of 77,078 coho in 2000. This estimate exceeds the interim escapement goal range of 27,500 to 35,000 coho salmon and is 3% above the previous 10-year average of 72,700 fish.

The preliminary estimate of the total in-river run into the Canadian section of the drainage was 82,365 coho. According to the new harvest arrangements for Taku coho salmon, Canadian fishers were entitled to harvest up to 10,000 coho at a run size of this magnitude. However, early run coho abundance through August appeared to be below average and forecasts of the inriver run size produced in late August and early September ranged from 40,600 to 60,300, indicating a directed allowable harvest in the 3,000 to 7,500 range. Poor prices and market conditions resulted in the closure of the fishery after week 37, i.e. September 9.

Chinook salmon

The commercial catch of large chinook, 1,576 fish, was 8% below the 1990-1999 average of 1,722 fish; the catch of 87 chinook jacks was 58% below average. Chinook escapement counts were below average in all six of the Taku River aerial index areas surveyed. The combined index count of 5,932 was 56% below the previous 10-year average of 10,943 chinook. Preliminary estimates derived from the joint Canada/US chinook mark-recapture program indicate a total spawning escapement of approximately 26,600 large chinook salmon. This estimate has yet to be expanded for the portion of the run not covered by the test fishery. It is expected the final estimate will be close to the lower end of the escapement goal range of range of 30,000 to 55,000 large chinook salmon.

Joint sockeye enhancement

Joint Canada/U.S. enhancement activities continued in 2000 with 3.132 million sockeye eggs taken from the Tatsamenie Lake stock. The egg-take was slightly above the revised target of 2.5 million eggs established for 2000. Of the total eggs taken, 2.888 million eggs were flown to the Port Snettisham hatchery in Alaska for incubation and thermal marking. The remaining 244,000 eggs were placed in a passive flow incubator in Tatsamenie Lake as part of an investigation into the poor survivals of enhanced Tatsamenie sockeye observed to date.

Approximately 350,100 sockeye fry from the 1999 egg-takes were out-planted into Tatsamenie Lake in June of 2000. The fry were mass-marked with a thermally induced otolith mark. All fry were released into net-pens in Tatsamenie Lake and fed for a 30-day period prior to release. Previous studies have shown that feeding significantly improves survival. The estimated sockeye smolt run in 2000 was 191,400 fish, of which approximately 38,600 were enhanced smolts.

Alsek River

Although catch sharing of Alsek salmon stocks between Canada and the U.S. has not been specified, Annex IV of the Pacific Salmon Treaty does call for a cooperative development of abundance based management regimes for Alsek chinook, sockeye and coho stocks. Interim escapement goal ranges for Alsek sockeye and coho salmon were initially set by the TRTC at 33,000 to 58,000 sockeye salmon, and 5,400 to 25,000 coho salmon. However, prior to 2000, stock assessment projects to determine system-wide escapements had not been developed except for some limited work on chinook salmon. Instead of managing to system-wide goals, which for the most part have been unverifiable, the TRTC has established index goals for the Klukshu River stocks. Historically, the principal escapement-monitoring tool for chinook, sockeye and coho salmon stocks in the Alsek drainage has been the Klukshu River weir, operated by DFO and the Champagne-Aishihik First Nation. The Klukshu River is a tributary to the Tatshenshini River, which is the main salmon producing river system of the Alsek drainage.

Based on joint stock recruitment analyses conducted on Klukshu chinook and sockeye salmon, Canadian and U.S. managers agreed to a minimum escapement goal of 1,100 Klukshu chinook salmon and a escapement goal range of 7,500 to 15,000 for Klukshu sockeye salmon for the 2000 season. An escapement goal for Klukshu coho salmon has not yet been developed.

Weak returns of both sockeye and chinook salmon and usually persistent high water conditions resulted in very poor catches of salmon in the Tatshenshini drainage in 2000. A total of 65 chinook salmon was harvested in the aboriginal fishery, which was the second lowest catch on record and was 78% below the 10-year average (1990-1999) of 295 fish. Due to weak returns of early- and late-run sockeye salmon, the aboriginal basic needs levels were not achieved. The aboriginal fishery harvested an estimated 745 sockeye salmon, 52% below the 10-year average (1990-1999) of 1,568 fish and the fourth lowest catch on record. A total of 51 coho salmon was harvested in the aboriginal fishery.

The sport fishery harvested 58 chinook, the lowest catch on record and 85% below average. High water conditions contributed to very poor fishing conditions throughout the season. Due to conservation concerns, sockeye retention in the sport fishery was prohibited throughout the entire season. As a result, 0 sockeye was retained; 65 sockeye were live-released. A low coho catch of 1 fish kept and 40 coho released, was attributed to the extensive restrictions implemented for sockeye salmon. This was the fourth consecutive year that major closures have been imposed on the fishery.

The Klukshu weir count of 1,365 chinook salmon was 52% below the previous 10-year (1990-1990) average of 2,862 fish. The spawning escapement of 1,321 chinook salmon above the weir achieved the minimum escapement goal of 1,100 Klukshu chinook salmon.

The weir count and total escapement of Klukshu River sockeye salmon was 5,551 and 5,422 fish, respectively. The early-run count of 237 sockeye, the second lowest on record, was 93% below the previous 10-year (1990-1999) average of 3,452 fish, and the late-run count of 5,314 fish was 66% below the previous 10-year average of 12,148 sockeye salmon. The overall spawning escapement of 5,422 sockeye salmon in the Klukshu River was 28% below the lower end of the escapement goal range. Below average sockeye escapement was also recorded in the neighboring tributary of Village Creek where an electronic counter recorded 2,222 sockeye, one half the previous 10-year average.

Unlike the chinook and sockeye counts, which were well below average, the Klukshu weir count of 4,832 coho salmon was more than two times the previous 10-year average of 2,390 fish. The weir is usually removed prior to the completion of the coho return due to icing conditions and generally does not include fish that migrate after mid-October. In 2000, the weir was pulled on October 18.

Northern British Columbia Pink Salmon

Areas 3-1 to 3-4 Pink Net Catch

For the year 2000, Canada was to manage the 3-1 to 3-4 net fishery to achieve an annual catch share of 2.49 percent of the annual allowable harvest (AAH) of Alaskan Districts 101, 102 and 103 pink salmon.

A well below average return of pink salmon was anticipated for Canadian northern boundary area stocks as a result of poor escapements in the brood year. A strong return was expected for the SE Alaska pink stocks adjacent to the northern boundary area. The Canadian pink catch in 2000 in Sub-areas 3-1 to 3-4 was 127,000 and the Alaska stock component of this is estimated to be 65,000 based on historic stock composition in the area. This harvest will be well below the target 2.49 % of the AAH. Final 1999 accounting and initial estimates for 2000 will be provided at the January 2001 PSC meetings.

The total Canadian pink catch of 127,00 in sub-areas 3-1 to 3-4 is much lower than the 1985-99 average catch of 1.55 million. The low harvest resulted from a combination of poor returns to northern boundary area pink stocks, and coho management restraints on Canadian net fisheries in Sub areas 3-1 to 3-4. The percentage of the 2000 Area 3 net catch taken in sub-areas (1-4) was 25%, which was well below the 1985-99 average of 60%.

Pink escapements in 2000 were near target in Areas 3 and 5 but below target in the Skeena and QCI areas.

Area 1 Pink Troll Catch

The Canadian commercial troll fishery in Area 1 was closed for the season due to conservation concerns for Skeena River coho. There was a small troll selective harvest experiment and a total of 28,295 pink salmon were harvested in this fishery, of which 20,000 were estimated to be of AK origin. This will be well below the annex agreement for 2.57 percent of the AAH of Alaskan Districts 101, 102 and 103 pink salmon. Final 1999 accounting and initial estimates for 2000 will be provided at the January 2001 PSC meetings.

Chinook Salmon

AABM FISHERIES

North Coast B.C. troll and Q.C.I. Sport fisheries

For 2000, the abundance index for these fisheries was 1.00 (CTC letter, June 23, 2000) and provided a total allowable catch up to 130,000 chinook in these fisheries. The preliminary troll catch of 9,200 chinook and 22,000 sport catch results in a combined catch of only 31,200 chinook.

The North BC chinook troll fishery was closed for the spring and summer seasons due to very low abundance of WCVI chinook, since that stock is vulnerable in these fisheries. The troll fishery was only open between Sept. 2 and 24th in Area 2W (test fishery vessel also operated around Langara Island, Area 1). This fishery was extensively monitored and sampled for examination of stock composition of catch, encounter rates by size categories, and maximum recovery of coded-wire tagged fish.

Sport fishing in Area 1 and 2W was open for the chinook but closed to coho retention. To reduce potential impacts on WCVI chinook salmon in this fishery, the daily limits for chinook salmon were reduced to one chinook over 77cm and one chinook over 45cm but under 77cm. fork length (June 5 to Sept. 1). This limitation was removed for the balance of the season when the troll fishery opened on September 2nd.

West Coast Vancouver Island troll and "Outside" sport fisheries

For 2000, the abundance index for these fisheries was 0.54 (CTC letter, June 23, 2000) and provided a total allowable catch up to 115,600 chinook in these fisheries. The preliminary troll catch of 63,450 chinook (over 55 cm.) and 37,200 (over 45 cm.) sport catch results in a combined catch of 100,600 chinook.

Coho conservation concerns affected chinook salmon fishing opportunities off the west coast of B.C. by excluding troll fisheries during the period of coho recruitment into the fishery (May through September). In the sport fishery, there was mandatory non-retention of coho salmon until implementation of a mass-mark selective fishery from August 24 to Nov. 30, 2000 (preliminary catch estimates from this selective fishery were 4230 coho kept and 8892 released). All sport and troll fisheries off the WCVI were required to use barbless hooks, and trollers were restricted to use of single hooks only. Troll vessels were also required to have "revival tanks" for resuscitating coho salmon prior to release.

Accounting of chinook troll catch was from Oct. 1, 1999 through September, 2000. The Department has continued to examine changes to the WCVI troll fishery to improve the economic base for the fleet and local communities while increasing flexibility harvest opportunities and reducing the harvest rates on stocks exploited in this fishery. Fisheries have been conducted in periods when coho incidental mortality is low and when mature WCVI chinook can be avoided. In the past year, chinook troll fisheries operated between Oct. 1 – 22, 1999 (total catch 56000 chinook, minimum size limit of 55cm.); March 28 – May 14, 2000 (limited effort for experimental fishing, 5340 catch, size limit 55cm); and Sept. 23-30, 2000 (limited effort for experimental fishing, 2089 catch, size limit 55cm). Catches during these fisheries have been extensively sampled for encounter rates, size distributions, and stock compositions (via CWT, DNA and otolith samples). Incidental catch of chinook was also permitted during a troll fishery in Barkley Sound directed at sockeye salmon (June 21-22, June 28-29, 2000). The catch in this fishery, however, was very small with only 25 chinook reported and 411 chinook released.

In the sport fishery, conservation concerns for the WCVI chinook stock resulted in reduced sport daily bag limits in offshore areas and implementation of a "no fishing" corridor extending from Carmanah Point (southern limit) to Tatchu Point on the northwest coast of the Island. The corridor extended from the surfline out one mile and was intended to exclude mature returning WCVI chinook from sport encounters. As in northern BC, the WCVI sport bag limit was modified to only one chinook over 77cm and one between 45 cm and 77 cm. These actions were taken starting on July 15th north of Estevan Point (Areas 125-127) and on August 1st south of Estevan Point (Areas 121-124). Fishing closures were implemented in most terminal areas, except where opportunities were expected near a major hatchery.

WCVI sport catches were extensively monitored via creel surveys from June through September and reported catches at lodges. The estimated "Outside" sport catch (Areas 121-126) was 37,200 chinook (45 cm. size limit). The estimated catch in the "inside" sport fishing areas was 6000 chinook, in Nootka Sound and Area 26 only.

ISBM FISHERIES

Northern and Central BC Fisheries

Fisheries included in this category are commercial net fisheries through out north and central BC, marine sport fisheries along the mainland coast and freshwater sport, and Native fisheries in both marine and freshwater areas. Under the PST, obligations in these fisheries are for a general harvest rate reduction (estimated in aggregate across fisheries) for ocean mixed-stock fisheries and for stock-specific objectives (i.e., achieving the escapement goal) in terminal areas.

Other than the AABM fishery noted above, no other chinook troll fishing occurred in north or central BC.

Commercial net catches totalled 17260 chinook (16869 gillnet and 391 seine) based on in-season catches estimates (sales records have not yet been compared with this hail data collected by time, area, and gear). The vast majority of this catch occurred in Area 4 gillnets and reflects very large terminal runs of chinook salmon to the Skeena River (test fishery index was the largest since 1953) and gillnet effort on sockeye salmon. Mandatory release of chinook was continued in most seine fisheries. Observer programs were used to estimate the total encounters of chinook by seine gear.

Sport catches in northern BC are not available yet, but central BC (Area 6-10) catches total 7200 chinook. Conservation concerns for Wannock River chinook (Rivers Inlet) resulted in terminal area sport regulations to reduce the catch on this stock and substantial investment in assessment programs to evaluate the status of this stock. A creel survey program for Rivers Inlet was implemented for mid-July through Sept 7th and provided a total catch estimate of 3358 chinook in the Inlet (includes lodges and independent anglers). The analysis of stock composition of this catch has not been completed. Radio-tagging and external tagging programs have provided information on chinook migrations and spawning population size. These data are also being analyzed, and will have to be compared with previous Wannock chinook escapement surveys that have been conducted using a visual estimation method.

Catch of chinook in Native fisheries during 2000 was similar to recent year catches. The estimated total catch was 2600 in tidal-area fisheries and 23300 chinook in non-tidal areas. The vast majority of these catches (84%) occur in Areas 3 and 4 (Nass and Skeena rivers) which had very strong returns of chinook salmon this year.

Southern BC Fisheries

Fisheries included in this category include: commercial net fisheries Johnstone Strait, Juan de Fuca Strait, Strait of Georgia, and the Fraser River; the St. of Georgia troll fishery; sport fisheries along the "inside" of the WCVI plus other marine sport fisheries and fisheries in local rivers; and Native fisheries in both marine and freshwater areas. In general, these fisheries were quite limited during 2000.

Commercial net fishing occurred in Johnstone Strait and the Fraser River but no commercial fishing was permitted in the Strait of Juan de Fuca or within the Strait of Georgia. Due to limited fishing opportunities and the requirements to release chinook taken in nets, the reported catch in Johnstone Strait was only 40 chinook and the number released estimated to be 3210 (gillnet and seine). Limited sockeye opportunities in the Fraser River resulted in a reported catch of 4,560 chinook (release not required). Both catch values are very small compared to past years.

Troll fisheries were limited to incidental chinook retention during sockeye and pink fisheries. Troll fishing in Area 111, and 11 and 12 (Area G troll) during sockeye fishing resulted in only 39 chinook retained but the number of releases was 5,600 chinook. Within the Strait of Georgia (Area H troll) the total catch of chinook was 458 chinook with only 32 chinook reported to have been released. These fisheries have been monitored to examine encounter rates and size distributions.

Sport fishing is currently the largest fishery on chinook in this region. The catch in these fisheries are now monitored by creel surveys in four areas: Juan de Fuca sport including Victoria and the Strait through Area 20-1, the Strait of Georgia, Johnstone Strait, and the mainstem lower Fraser River. Monitoring of these fisheries occurred throughout the year in the Juan de Fuca Strait (portion of original St. of Georgia creel survey area), from April 1 through October in most other fishing areas, and from June to early September in the Fraser River. The Fraser fishery is much smaller than the marine fisheries. The estimated catch in the mainstem Fraser was 5900 chinook plus 2100 chinook in the upper river tributaries. Recent fishing effort and catches for the major sport fisheries are reported in the following table.

Sport fishing effort (boat trips) and catch of chinook salmon in southern BC sport fisheries, other than the WCVI fisheries. Data for these fisheries based on creel surveys.

Year & Data	Area 20-1	J de Fuca St.	St. of Georgia	Johnstone St.
2000 Effort	4926	36883	127438	36165
2000 Catch	**2659**	**6746**	**22114**	**11437**
1999 Effort	6038	39484	124043	39151
1999 Catch	**5770**	**8984**	**34909**	**7813**
1998 Effort	4564	43457	119452	19630
1998 Catch	**3197**	**6438**	**14166**	**2991**

Coho non-retention continued in these fisheries for 2000 and effort continued to be down from historical levels. Sport fishery catch was restricted through an annual bag limit of 15, a daily bag limit of 2 and a size limit of 62 cm for Johnstone Strait and the Strait of Georgia, north of Cadboro Point. For the Canadian portion of Juan de Fuca Strait, the daily bag of 2 chinook over 45 cm. and a seasonal limit of 20 were in effect. Most spot area closures in the Strait of Georgia were removed during 2000 since fishing effort has declined substantially in recent years and the areas were no longer considered effective.

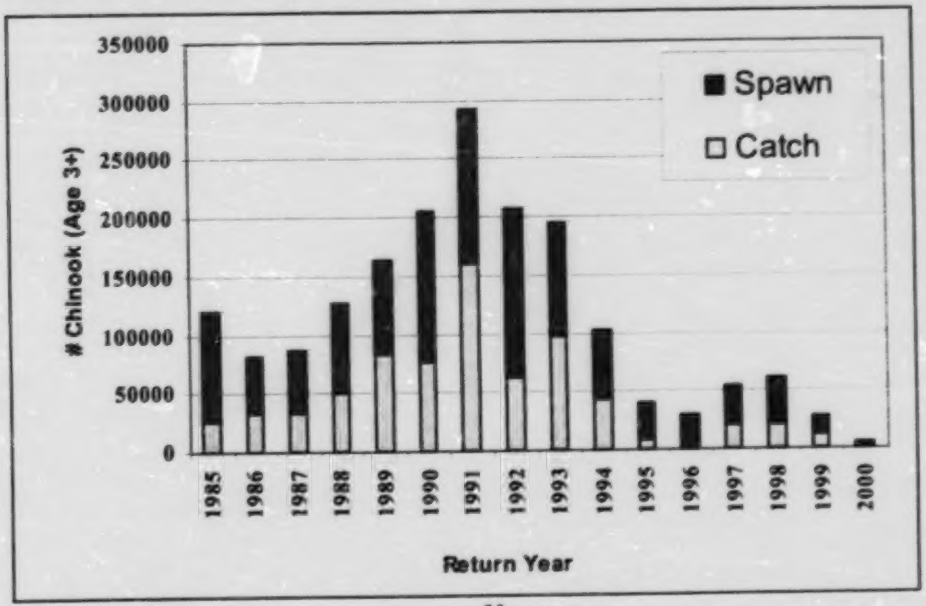
The major Native fishery in southern BC occurs in the Fraser River mainstem. The estimated catch for 2000 in this fishery was 25200 chinook. This value is slightly less than in 1999 but is larger than the recent 5-year average catches (22920 chinook).

Overview of Chinook Stock Status

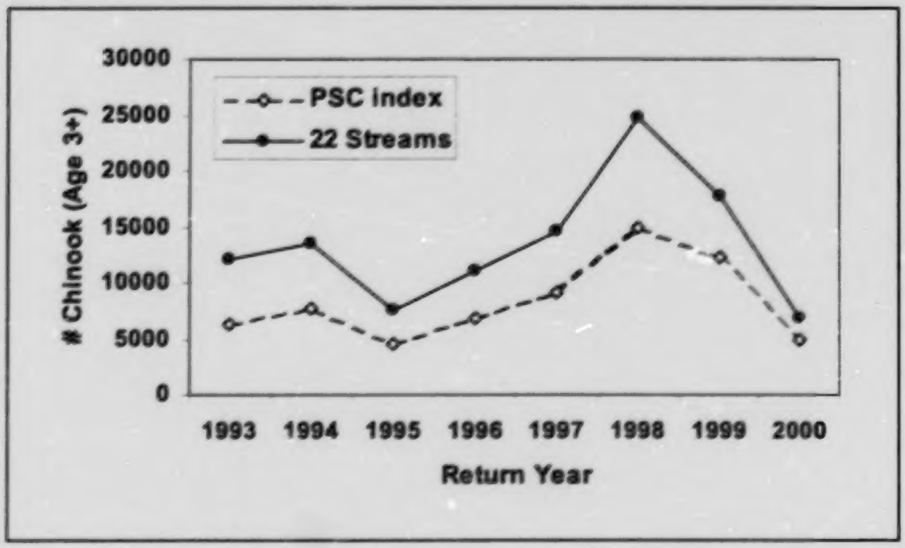
Since an assessment of the ISBM fisheries will be relative to the escapements achieved in the chinook indicator stocks, a brief overview of the 2000 returns is provided. The major points from north BC to the south are:

- Northern BC (Nass, Skeena, and QCI) terminal runs were strong;
- Central BC returns improved to the Chuckwalla and Kilbella rivers (Rivers Inlet) and have been quantitatively estimated in the Wannock River (Rivers Inlet). The estimated spawning escapement in the Wannock will be substantially larger than the 1999 estimated return but the assessment methods were very different.
- Upper Fraser River spring chinook return was lower than in 1999 continuing a recent trend of declining escapements, particularly in a few very early returning populations.
- Fraser River summer chinook returns continued to be strong.
- Lower Fraser River fall chinook (Harrison River white chinook stock) returned in large numbers (preliminary mark-recapture value approx. 135,000 Age 3+ chinook) to the Harrison plus Chilliwack rivers; and strong Jack chinook returns were noted.
- East coast Vancouver Island chinook returns were similar to 1999 returns with some notable improvements.
- West coast Vancouver Island fall chinook returns decreased substantially to the Robertson Creek Hatchery (RCH) and Stamp River indicator stock, and to the naturally spawning populations along the west coast. However, returns to Nitinat and Conuma Hatcheries did not decline to the same degree. Jack returns to the RCH indicator stock improved by approximately 10x compared to the 1999 return, but were still much smaller than historical returns.

Returns to the Robertson Creek and Stamp River indicator stock were the lowest terminal run of chinook salmon (figure below) since the inception of the key stream program. Total terminal return is presently estimated to be only 6,000 chinook (Age 3+).



Returns to the naturally spawning populations in Areas 23 through Area 27 (WCVI) have shown serious declines in numbers of spawners over the past two years. The 22 systems included in the figure below include the 7 PSC indicator stocks plus 15 others with consistently sampled escapements since 1993.



Southern B.C. Coho

The return of coho salmon produced from the many hundreds of SOG, Fraser River and WCVI spawning streams was expected to be poor in 2000 due to low brood escapements and forecast low marine survival rates. The proportion of fish harvested has been reduced in recent years, but the continued decline in marine survival rates offset the expected benefits of the actions taken to date.

Canada's management objective for coho in 2000 was to keep exploitation rates on Thompson River coho to near zero levels. There were no commercial troll or net fisheries for coho in 2000. Special management zones were implemented in areas where stocks of concern were present. Restrictions in these areas included time and area fishing restrictions and selective gear restrictions. Management of the southern B.C. coho fisheries also considered the "outside" distribution of Strait of Georgia and Fraser River coho to the WCVI. Yellow zones were designated areas where stocks of concern were not present, such as selected terminal areas of the WCVI and SOG near hatcheries, Central Coast areas, etc. Required selective fishing techniques included: gear restrictions such as barbless hooks for trollers; mandatory use of revival tanks in all commercial fisheries, mandatory logbooks and hailing catches on a regular basis; independent on-board observers on vessels when requested as part of the DFO monitoring program; and test fishing prior to openings to identify areas with high coho encounter

Area 20 Net Catch

There were no targeted commercial salmon fisheries in Area 20 in 2000.

West Coast Vancouver Island Troll (Areas 21 to 27, 121 to 127 and 130-1)

There were no commercial fisheries for coho along the WCVI (Area G) in 2000.

Table 1. List of selective marked hatchery coho recreational fisheries in 2000

Area	Dates	Catch (Hatchery marked)
123 to 127	August 24 to Nov 30	1,777
23 to 25	July 1 to Nov 30	3,973
20 (Juan de Fuca)	Oct 12 to Nov 30	532
20-2	Sept 1 to Nov 30	Less than 100
13 and 14	Sept 24 to Nov 30	4,757 (total inside)
16-5 (Porpoise Bay)	July 1 to Nov 30	494 kept 160 released

Southern British Columbia Chum Salmon

Johnstone Strait Fisheries (Areas 12 and 13)

Test fishing was the main assessment tool for the Johnstone Straits area. Test fishing data through early October suggested a total return of 2.2 million. However, subsequent assessments suggested total returns of less than 2.0 million. As provided in the agreement, the harvest rate is limited to 10% for run sizes of less then 3 million.

As per the preseason plan the following fisheries were conducted:

- Seine fishery was conducted on October 2, 2000 (12hr) for a total catch of 129,000 chum;
- Gillnet fishery starting 0800 hrs October 6, for 24 hrs. resulting in a total catch of 9,000 chum;
- Troll fishery conducted on October 9, for 1 day, resulting in a total catch of 2,000 chum.

The total Johnstone Strait commercial catch is 140,000. In addition, test and selective fisheries experiments payment catches totaled 13,000 and 8,000 respectively. Based on the in-season estimate of total return the exploitation rate in Johnstone Strait totaled less than 10%.

At this time escapements to the majority of terminal areas appear to be significantly below target.

Strait of Georgia (Area 14 to 19)

No fisheries were initiated, as run sizes were less than required to initiate fisheries.

GSI Sample Collection

A GSI sample was collected for stock identification from the Johnstone Strait commercial fishery which occurred on Oct 2.

Fraser River

Test fishing at Albion began on September 1 and fishery catches totaled 5582 chum to Nov. 20. The run size was lower than the pre-season forecast of 1.6 million. The preliminary total terminal run is estimated at 940,000, with an early run component of 640,000 and a late run component of 300,000, based on a new Bayesian model being test this year. Catches in the test fishery after November 2 dropped precipitously. The preliminary catch for First Nations is 22,000 chum to week ending Nov. 12, approximately 500 of which were taken in selective fisheries. An Area 29 commercial fishery took place on November 2 resulting in a total catch of 5,600 chum.

Experimental fisheries designed to test methods of selectively harvesting chum while releasing other species were undertaken in the Fraser River. The majority of the projects were trials of non-retention equipment. The harvest from these experimental fisheries was approximately 12,000 chum.

West Coast Vancouver Island Net (Areas 21 and 22)

Chum salmon returning to Area 22 (Nitinat Lake) are caught in Area 21 and parts of Area 121. The escapement objective for Area 22 was 250,000 to a maximum of 350,000. The additional 100,000 above the 250,000 target are utilized as hatchery broodstock requirements, increased distribution of spawners in the Nitinat River, and payment for in-lake test fishery/brood stock capture activities.

The fishing plan was again based on achieving weekly escapement goals into Nitinat Lake. In addition, the fishing plan addressed increased requirements to minimize by-catch of passing coho and steelhead, provide early opportunities for gillnets, provide a seine fishery to balance allocation, and then allow a combined seine and gillnet fishery at the peak of the run. Implementation of the plan was based on weekly assessment information from an in-lake test fishery/escapement surveys, a gillnet test fishery outside Nitinat Lake in the commercial fishing area, and a seine test fishery outside Nitinat Lake.

Due to extremely low migration rate into Nitinat Lake, no commercial fisheries were initiated in 2000.

The total escapement of 30,000 into Nitinat Lake (Area 22) was far less then the escapement objective of 250,000.

No electrophoretic samples were collected in Area 21.

Preliminary 1991 to 2000 Catches in Canadian Treaty Limit Fisheries

Fisheries/Stocks	Species	2000#	1999	1998	1997	1996	1995	1994	1993	1992	1991
Stikine River (all gears)	*Sockeye*	28,436	38,055	43,803	65,559	74,281	53,467	45,095	47,197	26,284	22,763
	Coho	436	181	726	401	1,404	3,418	3,381	2,616	1,855	2,648
	Chinook-large	3083	2,916	2,164	4,483	2,741	1,646	1,790	1,803	1,840	1,511
	Chinook-jack	628	1,264	423	286	421	860	350	308	239	660
Taku River (commercial gillnet)	*Sockeye*	28,149	21,181	19,038	24,246	41,665	32,640	28,762	33,217	29,472	25,067
	Coho	4,395	4,888	5,090	2,903	5,028	13,629	14,531	3,033	4,077	3,415
	Chinook-large	1,576	957	1,107	2,732	3,331	1,577	2,065	1,619	1,445	1,177
	Chinook-jack	87	226	227	84	144	298	235	171	147	432
Areas 3 (1-4) (commercial net)*	*Pink*	*127,000*	2,162,280	61,000	329,000	987,000	2,613,000	262,000	1,242,000	1,099,000	6,961,000
Area 1 (commercial troll)	*Pink*	28,295	25,000	0	261,000	732,000	1,284,000	220,000	890,000	760,000	1,647,000
*North Coast** (troll + sport)*	*Chinook*	31,200	70,372	144,650	145,568	26,900	119,100	241,000	258,300	262,000	303,200
West Coast Vancouver Island	*Chinooksport*	37,200	31,100								
	Chinook troll	*63,400*	6,500	10,284	51,400	0	81,000	146,000	275,000	345,500	202,900
Fraser River (Canadian commercial catch)	*Sockeye*	953,000	54,000	1,295,000	8,737,000	1,019,000	903,000	9,800,000	13,428,000	3,906,000	6,947,000
	Pink		3,000	0	3,660,000	0	3,777,000	0	3,731,000	0	6,405,000
Fraser River Stocks (US commercial catch)	*Sockeye*	494,000	41,000	707,000	1,578,000	257,000	415,000	2,100,000	2,876,000	700,000	1,881,000
	Pink		3,000	0	1,565,000	0	1,919,000	0	1,725,000	0	2,789,000
West Coast Vancouver Island (commercial troll)	*Coho*	0	0	0	0	761,000	1,345,000	1,251,000	954,000	1,664,000	1,890,000
*Johnstone Strait (clockwork catch)****	*Chum*	161,000	41,411	1,820,000	104,593	101,971	269,000	1,295,600	1,271,700	1,368,283	174,269

2000 CATCHES ARE PRELIMINARY AND ARE BASED ON IN-SEASON HAILS, ON-THE-GROUNDS COUNTS, DOCKSIDE TALLIES AND ABORIGINAL LANDING SLIPS, FISH SLIP DATA CREEL SURVEYS AND LOGBOOKS

* AREA 5-11 CATCHES INCLUDED PRIOR TO 1995 AND EXCLUDED FROM 1996 TO 1998 INCLUSIVE. NOT PART OF 1999 ANNEX IV PROVISIONS

** NORTH COAST CATCH EXCLUDES TERMINAL EXCLUSION CATCHES OF 6,000 ('91), 6,100 ('92), 7,400 ('93), 6,400 ('94), 1,702 ('95), 16,000 ('96), 5,943 ('97), and 2,182 in 1998. NO TERMINAL EXCLUSION IN 1999. CENTRAL COAST AREAS NOT PART OF 1999 ANNEX IV PROVISIONS

*** CANADIAN CLOCKWORK CATCH INCLUDES COMMERCIAL, IFF AND TEST FISH CATCHES IN AREAS 11-13 FOR1991-94 INCLUSIVE, AND IN AREAS 12-13 FOR 1995 TO 2000 INCLUSIVE

NOTE: BOLD LINE BETWEEN 1998 AND 1999 INDICATES THAT 1999 CATCHES ARE REPORTED ACCORDING TO FISHERIES/STOCKS UNDER THE 1999 ANNEX IV PROVISIONS

C. 2000 POST-SEASON REPORT FOR UNITED STATES SALMON FISHERIES OF RELEVANCE TO THE PACIFIC SALMON COMMISSION

PRELIMINARY 2000 SOUTHEAST ALASKA FISHERIES

Northern Boundary Area Fisheries

District 104 Purse Seine Fishery

The June 30, 1999 revision of the Pacific Salmon Treaty Agreement calls for the implementation of abundance based management in the District 104 purse seine fishery. The agreement allows the District 104 purse seine fishery to harvest 2.45 percent of the Annual Allowable Harvest (AAH) of Nass and Skeena sockeye prior to statistical week 31. The AAH is calculated as the total run of Nass and Skeena sockeye salmon minus either the escapement requirement of 1.1 million (200,000 Nass and 900,000 Skeena) or the actual inriver escapement, whichever is less.

The pre-Week 31 fishing plan for District 104 was based on the preseason forecast of 800,000 Nass and 2,250,000 Skeena sockeye salmon provided by the Canadian Department of Fisheries and Oceans (DFO). This yields a total run of 3,050,000, an AAH of 1,950,000, and a pre-Week 31 allowable harvest of 47,775 Nass and Skeena sockeye salmon in District 104. Management actions took into account an "underage" of approximately 15,000 sockeye salmon from the 1999 season.

In 2000, 48,969 sockeye were harvested in three 12 hour and three 15 hour openings pre-Week 31 (Table 1). In past years 60 to 80% of these sockeye have been of Nass and Skeena origin. Thus, we would anticipate that between 30,000 and 40,000 Nass and Skeena sockeye were harvested in the District 104 purse seine fishery pre-Week 31. The final targeted number of Nass and Skeena sockeye will not be available until catch, escapement, and stock composition estimates are finalized for the year. The number of boats that participated each opening ranged from 8 to 38. Districts 101 and 102 were opened for six 15-hour openings in these weeks. The shortened openings in District 104 combined with ample early-season fishing opportunities elsewhere in the region effectively limited effort.

The average number of Fraction Days Fished and Boat-Days Fished pre-Week 31 in years 1985 to 2000 is down 43% and 72% respectively compared to the 1980-1984 average (Table 2). The sockeye harvest is also down 24% despite a 175% increase in the average sockeye catch-per-boat-day since 1984.

After Week-30, District 104 was opened the same dates and hours as the purse seine openings in Districts 101, 102, and 103; openings were on a one-day-on and two-day-off schedule from July 23 through August 2 then on a two-day-on and two-day-off schedule from August 6 though August 23. The last opening was a one-day opening on August 26. The fishing effort and catches of all species was below Treaty-year averages.

For the season, the District 104 purse seine fishery harvested 1,804 thousand pink, 294 thousand chum, 227 thousand sockeye, 72 thousand coho, and one thousand chinook salmon.

District 101 Drift Gillnet Fishery

The June 30, 1999 U.S.-Canada agreement relating to the Pacific Salmon Treaty calls for abundance based management of the District 101 (Tree Point) drift gillnet fishery. The agreement specifies a harvest of 13.8 percent of the AAH of the Nass sockeye run. For the 2000 season, DFO had forecasted a total run of 800,000 Nass River sockeye salmon. The AAH is calculated as the total run of Nass sockeye salmon minus either the escapement requirement of 200 thousand or the actual inriver escapement, whichever is less.

The District 101 drift gillnet fishery opens by regulation on the third Sunday in June. During the early weeks of the fishery, management is based on the run strength of Alaska wild stock chum and sockeye salmon and on the strength of the Nass River sockeye salmon. Beginning in the third week of July, when pink salmon stocks begin to enter the fishery in large numbers, management emphasis shifts by regulation to that species. By regulation, the District 101 Pink Salmon Management Plan sets gillnet fishing time in this district in relation to the District 101 purse seine fishing time when both fleets are concurrently harvesting the same pink salmon stocks.

In 2000, the District 101 gillnet fishery was managed conservatively in recognition of the modest run of Nass sockeye forecasted and the need to repay an overage of approximately 50,000 Nass sockeye carried forward from the 1999 season. The district was opened for an initial 2-day fishing week beginning June 18 (Week 26) followed by openings of 2-days, 4-days, 3-days, and 4-days in Weeks 27, 28, 29, and 30. Sockeye, chum, and coho harvests during these openings were well below average. The cumulative sockeye harvest prior to the District 1 Pink Salmon Management Plan was 52,567 fish, or 56% of the season's total sockeye harvest.

The fishery was managed according to the Pink Salmon Management Plan from Week 31 through Week 36. Based on the reasonably strong return of pink salmon to District 101, 4-day openings in Weeks 31-32 and 5-day openings in Weeks 33-35 were allowed. During this time the effort (boats-days) was well below Treaty averages as was the sockeye, pink, chum, and coho harvest.

Starting on September 3 (Week 37) and continuing through the close of the fishery on September 18 (Week 39), the fishery was managed on the strength of the fall chum and coho returns. Chum and coho harvests were below Treaty averages these weeks.

A total of 93,572 sockeye salmon were harvested in the District 101 drift gillnet fishery in 2000 (Table 3). The sockeye harvest and number of boat-hours and boats fished was below the 1985-1999 average and the hours fished was above average (Table 4). The final targeted number of Nass sockeye will not be available until catch, escapement, and stock composition estimates are finalized for the year.

Escapements

Pink salmon escapement indices were below the 1990-1999 average in most stock groups in Districts 101-108. However, escapements were generally well distributed among streams and stocks. When summed across Districts 101-108, the escapement indices totaled 6.2 million and fell within the 6.0 – 9.0 million goal range.

Programs to estimate escapements of sockeye salmon were in place for four systems in southern Southeast Alaska in 2000, Hugh Smith, McDonald, Salmon (Karta) Lakes, and Klawock. The sockeye escapement to Hugh Smith Lake was 4,283 based on weir and mark-recapture counts. The escapement of sockeye salmon into McDonald Lake was estimated to be 90,623 based on expanded foot surveys. Approximately 35,811 McDonald Lake sockeye were harvested in a directed seine fishery in West Behm Canal with a total commercial harvest estimated at 86,924 sockeye and a total run of 177,547. Salmon Lake escapement was estimated at 9,103 based on expanded foot surveys. A total of 9,428 sockeye salmon were counted through the Klawock River weir.

Escapements of summer and fall run chum salmon were generally well distributed throughout southern Southeast Alaska. Index counts averaged about 30% above the 1990-1999 average. The escapement of chum salmon into Fish Creek at the head of Portland Canal was estimated to be 25,282 based on expanded foot survey counts.

Helicopter and foot surveys of coho salmon indicated that escapements were above average for most systems in southern Southeast Alaska. The Ketchikan area coho escapement index of 9,284 was 18% above the 1987-1999 average of 7,859 and very close to 1999 (9,391). Survey conditions were generally excellent and surveys were conducted during peak timing on all 15 surveyed streams in the index. However, the Hugh Smith Lake weir count of 600 adults was well below the 1982-1999 average escapement of 1,113 spawners, although within the goal range of 500-1,100. The 1999 smolt migration from Hugh Smith Lake was the lowest on record and only 62% of average, while the marine survival rate of 6.6% was only half of the historical average of 13.3%. The combined result was a total return estimated at only 1,310 adults, the lowest return on record and far below the 1982-1999 average of 4,329. However, despite the poor return the escapement goal was achieved because of a low exploitation rate, estimated at only 54% compared with the 1990s average of 75%. Although the Alaska troll exploitation rate of 37% was below the 1990s average (41%), most of the reduction occurred in the net fisheries.

Transboundary Area Fisheries

Stikine River Area Fisheries

The 2000 harvest in the District 106 commercial gillnet fishery included 1,220 chinook, 90,076 sockeye, 96,207 coho, 156,619 pink, and 199,836 chum salmon (Table 5). District 106 catches of chinook salmon were above the 1990-1999 average, the chum catch was 91% of average and the catches of sockeye, coho, and pink salmon were all less than half of average. An estimated 46% of the coho catch was of Alaskan hatchery origin. The U.S./Canada joint Tahltan and Tuya fry planting project contributed an estimated 9,000 fish to the District 106 sockeye catch.

Harvest sharing of Stikine sockeye stocks is based on inseason abundance forecasts produced by the Stikine Management Model (SMM) (Table 7). The marine and inriver catches of planted Tuya fish were estimated from analysis of otoliths for thermal marks. Egg diameter analysis of inriver catches was used to estimate the relative abundances of Tahltan and Mainstem fish to Tuya fish in the Stikine River. The ratios of thermally marked Tuya fish to Tahltan and Mainstem fish inriver were applied to the marine catches of Tuya fish to estimate the harvests of Tahltan and Mainstem Stikine sockeye stocks. Based on these analyses and ratios, the Sumner Strait fishery (Subdistricts 106-41 & 42) harvested 19,423 Stikine sockeye salmon, 34% of the total sockeye harvest in that subdistrict. The Clarence Strait fishery (Subdistrict 106-30) took 1,217 Stikine fish, 4% of the catch in that subdistrict and the District 108 fishery harvested 7,496 Stikine fish, 47% of the District 108 catch. An estimated 28,136 Stikine sockeye salmon were harvested in commercial gillnet fisheries from both districts, representing 26% of the total sockeye catch. Of these Stikine sockeye salmon, an estimated 13,478 fish were produced by the joint U.S./Canada fry planting project on the Stikine River.

Preliminary postseason run reconstruction estimates (Table 8) differ from the inseason management model estimates.

Table 7. Weekly forecasts of run size and total allowable catch for Stikine River sockeye salmon as determined inseason by the Stikine Management Model, 2000.

Stat. Week	Start Date	Forecasts Run Size[a]	TAC	TAC U.S.	TAC Canada	Cumulative Catch U.S.	Cumulative Catch Canada[b]
Model Runs Generated by the U.S.							
26	18-Jun						
27	25-Jun	140,980	62,655	31,328	31,328	16,321	3,595
28	2-Jul	182,956	99,409	49,705	49,705	18,895	9,455
29	9-Jul	177,766	71,731	35,866	35,866	24,413	13,258
30	16-Jul	168,736	55,931	27,965	27,965	20,798	16,233
31	23-Jul	159,795	57,130	28,565	28,565	26,430	17,775
32	30-Jul	157,594	53,879	26,939	26,939	28,043	24,652
33	6-Aug	160,459	57,495	28,747	28,747	28,136	25,826
34	13-Aug	160,459	57,495	28,747	28,747	28,136	25,826

[a] U.S. forecast were as follows: the preseason forecast was used for weeks 26 and 27; the inriver test fishery CPUE data for week 27, and the forecast based on inriver commercial fishery CPUE was used for the remainder of the sockeye season. (Canada independently generates forecasts that may use different criteria in some weeks.)

[b] Cumulative catch for Canada does not include approximately 1,200 Tuya ESSR fishery catch.

The estimated Stikine sockeye run was 100,774 fish (Table 8); the estimated spawning escapements of 3,953 Tahltan and 19,783 Mainstem fish were below the respective escapement goals.

Taku River Area Fisheries

The District 111 traditional commercial salmon harvests in 2000 totaled 1,172 chinook, 166,167 sockeye, 7354 coho, 54,686 pink, and 666,526 chum salmon. Catches of chinook, coho, and pink salmon were below average, but the catch of sockeye was third largest on record and the catch of chum salmon was a new record. Hatchery stocks contributed significant numbers of sockeye and chum to the harvests, and minor numbers to the harvest of other species.

The chinook salmon harvest of 1,172 fish was 35% of the 1990-1999 average. Alaskan hatchery fish contributed 467 fish as estimated by coded wire tag (cwt) analysis, or approximately 40% of the harvest. The Taku River stock assessment program at Canyon Island estimated the above-border chinook escapement at 30,014 fish, which met the goal range minimum of 30,000 fish.

The sockeye harvest of 166,167 fish was 139% of the 1990-1999 average. Estimated contributions of sockeye salmon from joint U.S./Canada Taku fry planting programs totaled 210 Trapper Lake and 1,215 Tatsamenie Lake fish. Additionally, an estimated 24,449 domestic U.S. hatchery sockeye salmon were harvested in the traditional gillnet fisheries.

Coho stocks harvested in District 111 include runs to the Taku River, Port Snettisham, Stephens Passage, and local Juneau area streams as well as Alaska hatchery fish. The coho catch of 7,354 fish was 9% of the 1990-1999 average. Coho catches were well below average during each week of both the summer and fall fishing season and were the lowest on record for weeks 27, 28, 29, and 31. Alaskan hatchery coho salmon contributed 487 fish or 7% of the District 111 harvest, a similar percentage to 1999 but down significantly from previous years even though runs to local Alaska hatcheries were good. Taku run strength estimates were below average during most of the season; however, the final estimate of escapement from the mark-recapture program indicated the escapement goal was surpassed.

The District 111 pink salmon harvest of 54,686 fish was 42% of the 1990-1999 average. Runs of pink salmon to all streams in the district, including the Taku River, were poor.

The catch of 666,526 chum salmon was composed almost entirely (>99%) of summer chum salmon. The summer chum catch of 663,515 fish was the highest on record. The summer chum run is considered to last through mid-August (week 33) and is composed mostly of domestic hatchery fish, with small numbers of wild fish contributing to the harvest. Chum salmon returning both to DIPAC hatcheries in Gastineau Channel and to the DIPAC remote release site at Limestone Inlet contributed a major portion of the catch but quantitative contribution estimates are not available. Approximately 68% of the District 111 chum catch occurred in Taku Inlet, followed by 32% in Stephens Passage, and less than 1% inside Port Snettisham. The catch of 3,011 fall chum salmon (i.e., chum salmon caught after week 33) was 25% of the 1990-1999 average. Most of these chum salmon are of wild origin. Escapement numbers to the Taku River are unknown; however, the numbers of fall chums captured in the fishwheels at Canyon Island are used as an index of escapement. The numbers for 2000 increased slightly from 1999, but are still well below the long-term average. The Taku River chum run is considered to be in a depressed state.

The 2000 season was the first year of returns of adult hatchery sockeye to the Snettisham Hatchery inside Port Snettisham. These fish were harvested in the traditional fishery and in extended openings in the Speel Arm Terminal Harvest Area. The additional openings in the Speel Arm Terminal Harvest Area resulted in a total of 56 days of openings in the District 111 drift gillnet salmon fishery. The combined harvests in the traditional fishery and the Speel Arm Terminal Harvest Area were 1,201 chinook, 183,823 sockeye, 7,635 coho, 58,666 pink, and 667,925 chum salmon.

Table 10. Preliminary Taku sockeye salmon run reconstruction, 2000. Estimates do not include spawning escapements below the U.S./Canada border.

	Taku	Snettisham Stocks
Escapement	75,747	Not Available
Canadian Harvest		
Commercial		
Wild	27,573	
Planted	436	
Food Fishery	140	
Total	28,149	
% Harvest	19.2%	
Test Fishery Catch	319	
Above Border Run	104,215	
U.S. Harvest		
District 111 Commercial		
Wild	114,614	25,678
Enhanced	1,426	24,449
Personal Use	1,500	
Total	117,540	
% Harvest	80.1%	
Total Run	221,815	
Taku Harvest Plan	Minimum	Maximum
Escapement Goal	71,000	80,000
TAC	150,755	141,755
Canadian portion	18.7%	19.9%
U.S. Portion	78.0%	82.9%

Alsek River Area Fisheries

Although catch sharing of Alsek salmon stocks between Canada and the U.S. has not been specified, Annex IV of the Pacific Salmon Treaty does call for a cooperative attempt to rebuild depressed chinook and early-run sockeye stocks. Preseason expectations were for an above average of coho run and below average runs of chinook and sockeye salmon. These expectations were based on parentyear escapements to the Klukshu River. The Alsek River opening was delayed to the second Monday in June, statistical week 25 (June 12). The initial opening was 48 hours as was the second opening. The openings were limited to 24 hours from weeks 27-31 because fishery performance indicated that the sockeye run was lower than average. The opening in week 32 was extended one day due to improved fishery performance data. Openings were limited to 24 hours for the remainder of the sockeye fishery (weeks 33&34). The fishery targeted coho stocks after late August. Escapement of coho at the Klukshu weir was well above average early in the season and fishing periods ranged from 3 to 4 days during weeks 35 through 41.

Transboundary River Joint Enhancement Activities

The transport of sockeye fry back to the Canadian lakes took place between May 22 and June 26, 2000. Fry planting was uneventful and in line with the desired release timing. A total of 8 flights resulted in close to 3.5 million fry transferred. This was the fewest number of planted fry for the transboundary lakes since the first year of the program. The small number of fry was due to the very low escapements at Tahltan and Tatsamenie Lakes. These fry were produced at Snettisham Hatchery from a collection of 4.2 million eggs taken at Tatsamenie and Tahltan Lakes in 1999. There was an overall survival of 78.3% during the incubation period (Table 12). Thermal marking took place before the fish hatched, and all release groups were successfully marked.

Table 12. Releases and survivals of 1999 brood sockeye salmon outplanted into Stikine and Taku systems in May – June, 2000.

Brood Stock	System Stocked	# of Trips	# of Fry Released	Green to Eye % survival	Green to Release % Survival
Tahltan L.	Tahltan L. (Stikine)	5	2,228,339	90.0%	80.4%
Tahltan L.	Tuya L. (Stikine)	2	866,530	95.7%	82.3%
Tatsamenie L	Upper Tats.L. (Taku)	1	350,139	94.3%	75.9%
	Ave/Totals	8	3,445,008	93.3%	79.5%

In Tatsamenie Lake the fry were held in net pens for short-tem rearing with the expectation that a larger size at release would improve survival. In Tahltan Lake, the fry were held for a short period in net pens to observe any transport mortality (there was no significant loss of fry). In Tuya Lake the fry were released directly into the lake.

The year 2000 egg take started on August 30th at Tahltan Lake and Sept 17th on Tatsamenie Lake. The 841 Tahltan females collected produced 2,438,900 green eggs. In Tatsamenie Lake, 704 females were collected which yielded 2,816,000 green eggs. The 2.4 million eggs from Tahltan Lake was the fewest number collected since the programs inception and due to the lowest escapement in that period of time.

During the 2000 season the ADFG thermal mark lab received 16,888 sockeye otoliths collected by ADFG and DFO staff as part of the U.S./Canada fry-planting evaluation program. These collections came from commercial and test fisheries in U.S. waters and in Canadian fisheries on the Taku and Stikine Rivers over a 13-week period. In addition, cost recovery and rack samples from Snettisham Hatchery as well as several escapement samples were examined. Combined, the laboratory processed 15,252 of the otoliths received (90.3%) and provided estimates on hatchery contributions for 136 distinct sampling collections. Of these totals, 4,422 otoliths were identified and classified as belonging to one of 36 marked groups. Estimates of the percentage of hatchery fish contributed to commercial fishery catches were provided to ADF&G and DFO fishery managers 24 to 48 hours after samples arrived at the lab.

Net Fisheries

Net fisheries have a guideline harvest of 8,600 chinook salmon, plus 4.3% of the annual harvest ceiling established by the Pacific Salmon Commission (8,200 for a total net harvest of 16,800), plus Alaska hatchery add-on chinook. Catches of chinook salmon in the net fisheries are incidental to the harvest of other species and only constitute a small fraction (<1.0%) of the total net harvest of all species. In 2000, the net fisheries harvested 41,500 chinook salmon of which 30,600 were from Alaska hatcheries.

Recreational Fisheries

The 2000 recreational fishery had a harvest of 52,000 chinook salmon of which 15,200 were from Alaska hatcheries.

Southeast Alaska Coho Salmon Fisheries

Attachment B of the June 30, 1999 U.S.-Canada Agreement relating to the Pacific Salmon Treaty specifies provisions for inseason conservation and information sharing for northern boundary coho salmon. In 2000, troll CPUE in Area 6 in the early weeks of the fishery averaged 49.9, well above the highest specified boundary area conservation trigger of 22. The mid-July projection of region-wide total commercial harvest was 2.1 to 2.3 million coho salmon (1.6-1.8 million wild) which was above the 1.12 million trigger for an early region-wide troll closure, specified in Alaska Board of Fisheries regulation and the PST conservation agreement.

The all-gear catch of coho salmon totaled 1.85 million fish of which 1.69 million were taken in commercial fisheries (Table 14). The sport catch of 165,000 fish is a very preliminary projection. Wild production accounted for 1.35 million fish (80%) in the commercial catch. Total indicator stock run sizes ranged from record low levels to slightly above the 1980s-1990s average. Escapements were within biological goal ranges in Southern Southeast and the outer coast and above goal in northern inside systems. In general, outer coastal stocks appeared stronger than inside stocks. Most inside marine survival indicators were below the lowest levels observed in the past decade. Exploitation rates were also substantially lower than in recent years for inside indicator stocks in both northern and southern Southeast, and this resulted in relatively strong escapements from weak returns. Low exploitation rates were primarily the result of: (1) low troll effort after mid-August, (2) limited seining for pink salmon, and (3) below-average fall gillnet participation, combined with weekly openings that were limited primarily to 2 days per week.

Table 14 . Coho salmon harvest in Southeast Alaska in 2000 by gear type (preliminary).

Gear Type	Harvest
Troll	1,124,700
Purse seine	210,400
Drift Gillnet	181,900
Set Gillnet	170,900
Sport	165,000
Total	1,852,900

Preliminary 2000 Chinook and Coho Salmon Catches in Washington and Oregon Fisheries

Ocean Fisheries

Fisheries off the Oregon and Washington coast are developed by the state of Oregon and Washington, treaty Indian tribes and federal management entities through the Pacific Fishery Management Council process. The U.S. ocean fisheries are typically constrained by coho and chinook ceilings.

Central Oregon Fisheries

Fisheries off the central Oregon coast are developed through the Pacific Fishery management Council process and are constrained by weak stocks of chinook and coho salmon.

While chinook stocks in the North Oregon Coast (NOC) and Mid-Oregon Coast (MOC) aggregates are far north migrating and contribute significantly to southeast Alaskan and Canadian fisheries, their contributions to fisheries off the coast of Oregon are very minor. NOC stocks, for example, probably contribute to less than 5% of the total catch in Oregon coastal fisheries. Oregon fisheries are believed to account for a higher proportion of total fishery related mortalities for MOC stocks. Actual catch contribution data in Oregon coastal fisheries are not readily available for any stocks in the MOC except the Elk River stock that is caught in a small pre-terminal fishery in state waters near the river mouth. Stocks in both NOC and MOC aggregates are harvested in estuarine and freshwater recreational fisheries when mature fish return to natal streams to spawn. The 2000 recreational fisheries are still in progress. Inseason estimates are not made for Oregon's estuary and freshwater fisheries and post-season estimates are made pending returns of angler punch cards.

Coho encountered in fisheries off the central Oregon coast are comprised mostly of stocks in what is known as the Oregon Production Index (OPI). This index is composed of the total catch of all stocks south of Leadbetter Point, Washington plus the escapements of stocks from the Columbia River and the coasts of Oregon and California. The Oregon Coastal Natural (OCN) aggregate that is the largest contributor of natural production to the OPI. Washington Coastal and Puget Sound stocks contribute far less than OPI stocks to harvests off the central Oregon Coast and the contributions from Canadian and Alaskan stocks are very minor. Serious declines in OCN coho abundance in the last decade led to their listing as "threatened" under the Endangered Species Act in 1998. In response, the serious declines in OCN coho, the PFMC and the state of Oregon have eliminated ocean and freshwater fisheries that target those stocks. However, in the mid-1990's Oregon began mass marking all coho produced in Columbia River and coastal hatcheries and, since 1999, selective fisheries for adipose fin-clipped hatchery coho have developed in response to abundant returns of these mass marked hatchery fish. Beginning in 1999, the PFMC has approved modest selective fisheries for coho with a healed fin-clip off the central Oregon Coast. A selective fishery off the central Oregon coast in 2000 caught approximately 20,000 mass marked coho (100% of the quota for the fishery).

Washington Coastal Fisheries

The preliminary 2000 estimate of total non-Indian net catch for Willapa Bay is 6,000 chinook and 10,000 coho. There is no tribal catch in Willapa Bay. Combined 2000 treaty and non-treaty net landings in Grays Harbor to date, including the Humptulips and Chehalis rivers, are 4,600 chinook and 15,800 coho. Recreational marine and freshwater chinook and coho catch data are not yet available.

Abundance of most coho and chinook runs returning to north coastal Washington rivers is unknown since spawning surveys are incomplete and fisheries for some rivers were severely restricted based on forecasts. Coho were expected to return in 2000 at levels above the lower end of the escapement range for naturally spawning stocks returning to north coastal rivers except for the Queets. The Queets River fisheries were closed for most of the coho migration period of October and November. Spring/summer chinook forecasts for the Hoh, Queets and Quillayute were for low returns. Preliminary information suggests returns of spring/summer chinook were below the floor escapement levels for the Queets (700) and the Hoh (900). Fall chinook returns were forecast to be weak and preliminary information suggests the Hoh River fall chinook escapement will be just above floor (1200).

Estimates of the 2000 commercial net fisheries in north coastal rivers, including the Waatch, Sooes, Quillayute, Hoh, Queets, Quinault, Moclips, and Copalis rivers, are incompletely accounted for at this time. Very preliminary minimum estimates indicate more than 1,100 chinook and more than 10,000 coho have been harvested.

Puget Sound Fisheries

Puget Sound marine fisheries of interest to the Pacific Salmon Commission in 2000 were regulated to meet conservation and allocation objectives for chinook, coho, pink, chum and sockeye salmon stocks, per tribal-state agreement. For Puget Sound chinook, listed under the ESA this year, fisheries were regulated to achieve reductions in total exploitation rates for key natural stocks, and additional constraints were adopted in many terminal areas. Release requirements were implemented for chinook and for chum salmon to protect ESA-listed summer chum.

Preliminary estimates of the 2000 tribal and non-tribal net fishery harvests in Puget Sound marine areas other than 4B, 5, 6, 6A, 7, and 7A are 28,000 chinook and 143,000 coho, mostly taken in terminal areas where harvestable abundance was identified. Additional tribal net harvest of coho and chinook occurred in rider fisheries. A small non-Indian reef net fishery operated in the San Juan Island area following the Fraser Panel controlled fisheries, in September and through early October. Total catch of coho in this fishery was 692 fish, only 23% of the catch ceiling of 3,000 coho. All chinook salmon encountered in this fishery were released.

Table 2. Preliminary 2000 landed coho catches for Washington and Oregon fisheries of interest to the Pacific Salmon Commission (rounded to nearest 100)[1]

Fishery	Gear	Tribal	Non-Tribal	Total
OCEAN FISHERIES				
Troll				
Cape Flattery & Neah Bay (Areas 4 & 4B)[2]	Troll	22,100	0	22,100
Quillayute (Area 3)	Troll	0	0	0
Grays Harbor (Area 2)	Troll	0	2,700	2,700
Col. R. (OR Area 2 and WA Area 1)	Troll	0	14,500	14,500
Sport				
Cape Flattery & Neah Bay (Areas 4 & 4B)	Sport	0	11,800	11,800
Quillayute (Area 3)	Sport	0	1,900	1,900
Grays Harbor (Area 2)	Sport	0	28,800	28,800
Col. R. (WA Area 1 and OR Area 2)	Sport	0	39,700	39,700
INSIDE FISHERIES				
Troll				
Strait of Juan de Fuca and San Juan Islands (Areas 6, 6A, 7, and 7A)	Troll			
Sport				
Juan de Fuca (Area 5 only)	Sport		29,800	29,800
Puget Sound Sport (Areas 6-13)	Sport		N/A	N/A
Columbia River Sport[3]	Sport		26,000	26,000
Net				
Cape Flattery (Area 4)	Net		0	0
North WA Coastal River	Net	10,000	0	10,000
Grays Harbor (Areas 2A-2D)[4]	Net	10,800	5,000	15,800
Willapa Bay (Areas 2G-2M)	Net	N/A	10,000	N/A
Columbia River Net	Net	6,200	120,000	126,200
Strait of Juan de Fuca and Areas 6 and 6A	Net	3,000	0	3,000
Areas 7 and 7A	Net	400	700	1,100
Puget Sound Marine	Net	0	0	143,000

Note: Catch estimates for coastal & Puget Sound rivers available for previous year only.

[1] Includes catches from January 1 through October, 2000, except where noted.
[2] Includes Area 4B catch both during & outside the PFMC management Period (May 1 – Sept. 30).
[3] Includes both Buoy 10 and mainstem sport catch from below Bonneville Dam.
[4] Includes catch from the upper Chehalis and Humptulips Rivers.

Preliminary Review of 2000 Washington Chum Fisheries of Interest to the Pacific Salmon Commission

This summary report provides a preliminary review of the 2000 chum fishing season and is subject to correction and revision as additional information becomes available. Some Washington chum fisheries are still underway, and catch and run size information provided are preliminary data reported through mid-November. This report addresses in detail only those fisheries of concern under the Pacific Salmon Treaty. The mixed-stock fisheries in United States (U.S.) waters that are addressed in the chum annex of the Pacific Salmon Treaty are those in the western Strait of Juan de Fuca (areas 4B, 5 and 6C), the San Juan Islands (area 7) and Point Roberts (area 7A). Other chum fisheries in Washington waters are primarily terminal fisheries, which harvest runs of local origin.

Mixed Stock Fisheries

Areas 4B, 5, 6C

As in previous years, the chum fishery in areas 4B, 5, 6C was restricted to Treaty Indian gill net gear only. The commercial chum fishery began October 15 and remained open 7 days per week until November 11. No test fisheries for collection of GSI samples were conducted, and no samples for GSI analysis were collected from the commercial catch during 2000.

Incidental summer chum catches in fisheries prior to the fall chum management period totaled only 7 fish. Fall chum catches in the Strait of Juan de Fuca commercial fishery were significantly less than expected given the forecasted abundance of Puget Sound chum runs. The lower than expected harvests were primarily due to low catch rates and low effort. The commercial harvest recorded from the fall chum management period was 4,742 chum bringing the total chum catch in areas 4B, 5, 6C, reported through November 13, to 4,749.

Catches:

Table 3. Preliminary 2000 Fraser River sockeye salmon catches.

Fraser River	Sockeye Salmon Harvest
Management	
PSC Test Fishing	73,000
Canadian Test Fisheries	16,000
Subtotal	89,000
Canada	
Commercial	
Fraser Panel Area	420,000
Non-Panel Area	548,000
Subtotal	968,000
First Nation	
Marine Areas	91,000
Fraser River	720,000
Subtotal	811,000
Recreational	24,000
Charter	8,000
Total Canada	1,811,000
Alaska	Nil
Washington	
Treaty Indian Commercial:	
Areas4B, 5 and 6C	53,300
Areas 6, 7and 7A	117,700
Subtotal	260,100
Treaty Indian Ceremonial/Subsistence	3,500
Treaty Indian Subtotal	263,600
Non-Treaty Commercial	
Purse Seines	111,700
Gill Nets	100,500
Reef Nets	18,000
Non-TreatySubtotal	230,200
Total U.S.	493,800
Total	2,393,800

Source: PSC staff, September 19, 2000

Diversion and Timing

Historical pre-season diversion forecasts provided by DFO have relied on monthly mean sea surface temperature (SST) recorded daily at Kairns Island, B.C. in May and June. A final pre-season 30% Johnstone Strait diversion rate was provided by Canada in July. Overall diversion rate is estimated to be approximately 30%.

The timing of the Early Stuart and Early Summer runs of Fraser sockeye was approximately six days earlier than the historical average while the larger Summer Run was timed almost at the historical average. Late Run sockeye arrived in Panel waters and migrated into the river much earlier than normal as is discussed in the net section.

Late Summer Run Behavior

Early upstream migration of the late summer runs (Birkenhead, Weaver, Harrison, Cultus, Lower Adams, Portage) continues to be a concern to the Panel. Current data indicates that the 50% point in the upstream migration of these stocks occurred August 16, six weeks earlier than average and the earliest on record. Recent observations of dead, unspawned fish in Harrison Lake and Harrison River suggests that a sizeable fraction of the Weaver sockeye escapement will be pre-spawn mortalities. These observations parallel the events of 1999 when a large portion of the Late-run stocks migrated upstream early sustaining as much as 100% pre-spawning mortality in Cultus origin sockeye and 50% in the Adams; Harrison and Weaver realized approximately 80% mortality. The myxosporean parasite, *Parvicapsula minibicornis*, has been identified in gill and kidney tissue samples from Late-run sockeye that were caught in the Fraser River, but were not found in fish sampled in the Strait of Georgia. This parasite probably contributed to the mortalities observed in 1999 and may again be a contributing factor to in-stream mortality in 2000. However, the major issue is not that the parasite was detected, but that early upstream migration of Late-run sockeye causes considerable stress to the fish, which then become vulnerable to parasites and disease.

Management Challenges

The Fraser Panel and Commission staff were again severely challenged in 2000 to evaluate the size and entry patterns of the Fraser sockeye runs in a timely manner that would allow for the orderly conduct of fisheries outside the river. This was primarily due to the lack of commercial fisheries and the associated catch and effort information in outside Canadian fishing areas and a reduction in reliability of scale based stock identification information.

D. 2000 UPDATE REPORTS FOR SALMONID ENHANCEMENT PROGRAMS IN THE UNITED STATES AND CANADA

The Pacific Salmon Treaty between Canada and the United States requires that information be exchanged annually regarding operation of and plans for existing enhancement projects, plans for new projects, and views concerning the other country's enhancement projects. In 1988, a committee was formed to develop recommendations for the pre- and post-season and enhancement report formats. In summary, the committee proposed that:

- detailed reports on existing enhancement facilities of the type produced in 1987 be prepared every four years;
- the Parties will annually update information on eggs taken, fry or smolt released and adults back to the facility; significant changes in facility mission or production will be highlighted in narratives; and
- the Parties will provide periodic reports through the appropriate panels on new enhancement plans.

1. 1999 UPDATE REPORT FOR THE SALMONID ENHANCEMENT PROGRAM IN BRITISH COLUMBIA

SIGNIFICANT CHANGES IN PROGRAM

COASTAL DIVISION

East Coast Vancouver Island

BIG QUALICUM: Chum escapement was approximately 65 percent of target in 1999. The female portion of the escapement was well below fifty percent. Hatchery production goals were achieved for both chinook and coho. Chinook escapement was low for jack chinook for the third year in a row, indicative of weaker returns in the future. Coho escapement to the river was below previous years but better than average with a good mix of sizes. The coho jack returns were about 35 percent historical averages. Big Qualicum is now operating Rosewall Hatchery for strategic stock enhancement and other research oriented projects.

CHEMAINUS: Chinook escapement was better than the previous three years with the hatchery achieving their chinook egg target. Very few coho were observed. The hatchery egg target was not achieved.

LITTLE QUALICUM: has been experiencing similar returns as Big Qualicum.

PUNTLEDGE: Pink salmon returns were good. The chum escapement was very good with evidence of overspawning (eggs being washed out of the gravel). The summer run chinook escapement was improved compared to previous years with large numbers of jacks in the escapement. A portion of the eggs will be taken to Rosewall Hatchery for incubation and rearing, both to increase smolt growth and for a third year of a captive brood program. The fall run chinook escapement was greatly improved compared to previous years with the hatchery achieving their fall chinook egg targets from within the system. Coho escapements were good though not as good as the last year. Steelhead returns continue to be very weak.

QUINSAM: Chinook adult escapement continues to improve. This may reflect the fishery closure at the mouth of the Campbell River. Chinook jacks returns were below expectations. The chinook otolith marking continues. Coho returns are good with the hatchery achieving egg targets. A large number of jack coho returned to the system. Pink escapement was slightly below average. Chum escapement to Campbell River was good, poor returns to the Quinsam River. The hatchery is undertaking several programs with the community and B.C. Hydro to improve water flow control and productivity of the Campbell River system. An estuary management plan has been initiated with Campbell River municipality and is initiating several habitat improvement projects within the estuary.

West Coast Vancouver Island

CONUMA: Chum escapements to Tlupana Inlet were much reduced from previous years. The hatchery achieved the reduced 1999 egg targets for all systems. The chinook escapement was below previous years but with the target escapement. We expect poor returns for the next years as a result of warm ocean conditions experienced in the juvenile years. Coho egg targets were reduce in 1999, budget constraints. Coho returns continue to be low despite non-retention coho fisheries. This year volunteers mass marked coho for potential mark-only sports fishery. The chinook and chum otolith marking program continues.

NITINAT: The chum escapements were poor with a very small fishery. The hatchery chum egg targets were reduced by 30 percent to meet budget constraints. This reduced egg target was achieved. Chinook escapement was well below previous years, with weak returns of jack and 3 year old chinook that indicates poor returns in the future. Nitinat chinook production was reduced to three million to bring the program within budget. Coho escapements were good. The hatchery continues to support the Sarita River chinook enhancement efforts. The chinook and chum otolith marking program is continuing.

ROBERTSON CREEK: Total chinook escapement was very poor, below target escapement. The hatchery achieved its egg target, although the jack, three-year-old and four-year-old components were poor, indicative for very weak returns in the future. The hatchery achieved a 600k egg target for the second year for Nahmint River chinook program. Coho returns were good, though down from last year, with a reasonable number of jack coho present in the escapement. The chinook otolith marking continues.

Central Coast

SNOOTLI: Good adult returns for chum and poor returns for pink salmon. A strong chum fishery continues. Chinook are returning in good numbers at or near target escapement, while supporting a local food fishery and a small commercial fishery. The coho escapement was good for both the upper systems and the lower Bella Coola stocks, though below last year. The hatchery continues to support the community coho smolt program for lower Bella Coola stocks. The hatchery continues to support enhancement efforts for Rivers Inlet chinook stocks. The hatchery was involved with a small sockeye enhancement program for Rivers Inlet stocks.

North Coast

KITIMAT: The steelhead program continues to be a success. The chinook escapements are good though down from last year. Coho escapement to the Kitimat River continues to be strong. Chum escapement was good. The hatchery chum egg targets were not achieved due to inclement weather conditions during the spawning season.

PALLANT: Chum and coho escapements were very good. The Haida in partnership with DFO now operates the hatchery. The chum egg targets have been increased to twenty four million eggs and the coho egg targets have increased to nine hundred thousand eggs. The experimental coho lake pen program is showing promise.

FRASER RIVER AND NORTHERN B.C. DIVISION

Lower Fraser

CHEHALIS: Following a number of poor years, for the third consecutive year returns of Harrison white chinook were above average. Coho returns appeared average to slightly above average with what appears to be a slight increase in smolt to adult survivals, while chum returns remained very strong. Given this fact, for brood year 1998, the chum production target was dropped from 4.5 million to 1.0 million.

CHILLIWACK: Chilliwack River levels were higher than normal and prolonged due to extremely high snow pack conditions in the Cascade Mountain range. This continued through into the fall freshet period. Sport fishing opportunities for summer Red Chinook were effected by lower returns than normal and higher water conditions in the Chilliwack River. Even though broodstock egg targets were met, returns to the hatchery were less than half of normal. Coho escapement were slightly higher than the previous year, although lower than the previous 10 year average. Fall Chinook and Chum escapements continued to be strong and at near record levels. The abundance of these fall returning salmon and water conditions set the stage for an extremely good river sport fishery. Steelhead escapements were below normal, but it sustained a viable winter fishery. Both Coho and Steelhead are mark only (adipose clip) fisheries on the Chilliwack River. There is concern for some wild Coho tributary stocks, particularly late timing groups. The chinook otolith marking continues.

INCH: Chum escapements to Inch Creek and Stave River continue to be strong. Coho escapement to Inch Creek indicated approximately four times the survival of 1996 brood fish compared to 1995 brood fish. The Stave River saw a return of about 10,000 coho (from a record hatchery release). Anglers fished more than 10,000 days on the Nicomen and Stave systems during the period of hatchery returns. Stave River chinook are rebuilt enough to support a limited sports fishery in 2000. The Inch Creek project continued conservation work on Maria Slough chinook. Mass marking of hatchery coho continues as well as significant marking of chinook and chum for stock assessment.

UPPER PITT: For 1999, a successful fall program resulted in 5.5 million sockeye eggs being taken. The preliminary escapement estimate is 30-35 thousand sockeye. For the third consecutive year, a portion of the facility production will be otolith marked prior to release at south end of Pitt Lake in hopes of experiencing increased fry to adult survivals.

WEAVER CREEK: The spring of 1999 downstream program enumerated 46.5 million fry, for a survival rate from egg stage of 72%. For brood year 1999, the presence of the parasite *Parvicapsula minibicornis* amongst returning adults resulted in high prespawning losses. Given this mortality event, the channel was only loaded to 80% of historic capacity.

Mainland

CAPILANO: Projected smolt release numbers for chinook, coho and steelhead were achieved. Capilano adult coho returns provided one of the few terminal tidal and non-tidal sports fishing opportunities in this year of coho conservation. Coho adult returns to the hatchery itself were lower than average. Adult returns from transplants of Chilliwack white chinook eggs were lower than was anticipated. Adult Steelhead returns are of great concern with only one female and four male summer run steelhead returning to the hatchery in 1999.

TENDERFOOT: Chinook escapements were lower than anticipated due to a weak 4-year-old age class. Two- and 3-year-old age classes were very strong and bode well for escapements over the next few years. Chinook egg target (1.2 million) was not met (1.0 million eggs taken). Coho escapements were very good and all targets were met. Some additional eggs were taken for fry releases to new and underseeded habitat restoration projects.

Middle Fraser

SHUSWAP: Average to strong chinook escapements resulted in egg targets for both the Middle and Lower Shuswap being met. For the second consecutive year, the facility has been involved in enhancement of three local coho stocks of conservation concern.

SPIUS: Coho escapements to the Coldwater River were slightly stronger enabling the egg collection target to be attained for the first time in a number of years. For the Salmon River, continuing poor returns resulted in an egg collection shortfall. For the second consecutive year, two new coho stocks of conservation concern were added to the facilities enhancement program. For chinook, returns to Nicola watershed systems were considered to be average.

Upper Fraser

HORSEFLY: Following a number of improvement activities (settling basin cleaning and redesign, partial gravel replacement) the brood year 1998 egg to fry survival rate was 74.7%. The channel was fully loaded for the fall of '99, resulting in a calculated egg deposition of 27.2 million.

NADINA: For brood year 1998, a small adult escapement to the system resulted in light loading of the channel. From a calculated egg deposition of just under 4.4 million, just over 3.0 million fry were produced, resulting in an egg to fry survival of 68.8 %. For brood year 1999, a more moderate escapement resulted in a calculated egg deposition of 10.6 million. For both recent years, prespawning mortality and egg retention rates have been low.

Upper Skeena

FULTON AND PINKUT: The spring program's for brood year 1998 resulted in total fry production from both sites of 100.8 M, a 41% decrease as compared to the previous twenty year average. The reduction was the result of reduced escapements that were linked to parasite induced prespawning mortalities experienced in brood year 1994. For the fall of 1999, while sufficient adults returned to fully load the Pinkut project, load rates at Fulton were 30% lower than optimal. With the assistance of a full time summer student and diagnostic staff from PBS, sampling activities for Ich and Loma continued. Although both parasites were again documented to be present, no elevation in prespawning mortality was seen.

Northern

TRANSBOUNDARY: A small escapement of less than 11 K adult sockeye to Tahltan Lake (Stikine system) resulted in only 4.2 M of the 6.0 M sockeye egg target being achieved. At Tatsamenie Lake (Taku system), a poor escapement resulted in the attainment of only 0.5 M of the 2.5 M egg target. Short term net pen rearing continues to be performed with a portion of the enhanced Tatsamenie stock in an attempt to increase fry survivals.

Resource Restoration and Development Division

HABITAT RESTORATION: The Resource Restoration Division, in concert with the Development Division, continues to implement habitat restoration projects throughout B.C. Funding for the projects was derived, in part, from other programs such as the Fraser River Action Plan, Skeena River Green Plan, B.C. Hydro, Watershed Restoration Plan (Forest Renewal B.C.), Habitat Conservation Fund and Pacific Salmon Foundation. In addition to project implementation, technical staff have assisted in training contractors and have participated in workshops that will set the direction for future habitat rehabilitation projects throughout B.C.

HRSEP: The Habitat Restoration and Salmon Enhancement Program (HRSEP) was first established in 1996/97, and has over the years funded projects for a total value of over $25 million. The main objective of the federally funded HRSEP is to revitalize salmonid populations in the Pacific Region through habitat restoration, stock rebuilding and resource and watershed stewardship. Each year, HRSEP contractually funds over one hundred worthwhile habitat restoration works, stewardship initiatives and stock rebuilding activities operated and administered by a variety of community groups and agencies.

Community Involvement Division

SEP's Community Involvement Division (CID) continues to manage four parts of the Salmonid Enhancement Program: the Community Economic Development Program (CEDP), the Public Involvement Program (fish production projects), information dissemination concerning CID (public displays, brochures, newsletters, etc. on various topics including fish production techniques, habitat restoration and educational concerns) and the Education Program (including Salmonids in the Classroom). No major changes to the program occurred in 1999.

Lake Enrichment Program

Two sockeye salmon nursery lakes on Vancouver Island (Great Central and Henderson) were fertilized weekly from June to September 1999. For the first time, the application work was carried out using small power boats rather than aircraft, which have the means of application for the past 25+ years. A highly concentrated liquid fertilizer (high in phosphorus and nitrogen) was added to the lake in 1-3 applications per week. Monitoring of nutrient levels, phytoplankton and zooplankton levels over many years in these lakes has indicated that the nutrients move quickly up the food chain to stimulate the productivity of the lake.

The late onset of summer in 1999, resulted in a lower nutrient loading to Great Central Lake than previous years. Preliminary analysis indicates that this resulted in lower levels of food organisms and gave smaller growth rates for the sockeye fry that were rearing in the lake. We are expecting to see a smaller average size in the sockeye smolts that leave Great Central Lake in the spring of 2000, which should result in a lower marine survival rate for this stock. Future applications are expected to return to the higher loadings of the past.

2. 1999 ANNUAL REPORT ON THE SALMONID ENHANCEMENT ACTIVITIES OF THE UNITED STATES

SOUTHEAST ALASKA

(State-operated and Private Non-profit Fish Hatchery Production)

New Production

Chinook production at Medvejie Hatchery increased in 1998 by 500,000 eggs.

Loss of Production

Northern Southeast Aquaculture Association has discontinued its project at Port Camden, resulting in a loss of production of 2.3 million chum salmon. To increase production efficiency, chum salmon production at Hidden Falls Hatchery was decreased by 10 million eggs.

Gastineau Hatchery has started decreasing pink salmon production. Three million fewer pink eggs were taken in 1998 than in 1997.

Trends in Production

Most private non-profit hatcheries are nearing their permitted capacities. Potential eggtakes and releases should increase only slightly over the next few years as hatcheries reach their physical and legally permitted capacities. Returns to hatcheries will fluctuate with varying marine survival.

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

New Production

No significant new production capacity has been added in Washington State.

Loss of Production

Federal budget reductions for the Mitchell Act mitigation program have resulted in the closure of several facilities in the lower Columbia River, including Beaver Creek Hatchery, Grays River Hatchery and Fallert Creek Hatchery. Elsewhere in the state, ESA concerns, fish health policy constraints, and losses in state funding have resulted in modest reductions to chinook, coho and steelhead production.

Trends in Production

For the short term production levels are expected to be stable. In recent years, budgetary issues have been the dominant factor in changing production levels. The decrease in the Mitchell Act program is the most obvious example of budget driven program changes; however, state funding levels have been variable as well. The full impact of the ESA listings of salmon and steelhead are unknown at the present time; changes in hatchery operations are occurring as a result of ESA and the ultimate level of Washington's production program is unknown.

TREATY TRIBES OF WESTERN WASHINGTON

(Reported by The Northwest Indian Fisheries Commission)

New Production

Slight changes in production occurred at Western Washington tribal facilities in 1999. Most notably there were decreases in chinook and yearling coho production. There was increased chum production.

Loss of Production

No significant changes

Production Trends

Trends in tribal fish production are listed in Table 1. Beginning in 1985, annual releases increased substantially. Over the past ten years the Western Washington treaty tribes have released on average 42 million salmon and steelhead.

Minor increases in fall chinook, spring chinook, and yearling coho production are planned for future years. Small decreases in chum production are anticipated. Production of other species is expected to remain similar to recent years.

OREGON DEPARTMENT OF FISH AND WILDLIFE

New Production

Spawning of captive reared Snake River spring chinook broodstock occurred in 1999. Eggs were taken and fertilized from 3 Grande Ronde River stocks, Catherine Creek, Lostine River and Upper Grande Ronde River. All of these mature adults were captured as juveniles in their respective watersheds and reared to adulthood in captivity. The resulting juveniles will be released in the year 2000.

The hatchery winter steelhead program for the Clackamas river is undergoing a stock transition from the domesticated Big Creek stock to the local Clackamas stock. Future plans are to use only local broodstocks for as many hatchery rearing programs as possible.

Coastal hatchery coho production has continued to decline. However, the lower Columbia River terminal fisheries program (CEDC) is expanding with increased releases of both coho and chinook from net pen rearing sites that afford both sport and commercial fisheries with little or no impact on endangered species.

Trends in Production

State budget shortfalls continue to result in hatchery program reductions throughout Oregon. Federal Mitchell Act budget shortfalls could impact hatchery production in the next couple of years unless more money is appropriated in Fiscal Year 2001. A Mitchell Act Reform package is being submitted to the Department of Commerce requesting increased funding to implement new hatchery practices and to increase acclimation sites in the upper Columbia River Basin.

Implementation of the Oregon Plan for Salmon and Steelhead is underway, emphasizing natural production areas, habitat improvements and cooperative programs to increase naturally produced fish in coastal watersheds. Funding for new innovative hatchery practices is being sought to supplement diminished populations of coastal salmon and steelhead.

Negotiations continue for the renewal of the Columbia River Fish Management Plan under the US. vs. Oregon settlement agreement which expired at the end of 1998.

IDAHO DEPARTMENT OF FISH AND GAME

New Production

No new production was undertaken in 1998. Captive brood and rearing programs continue at the Eagle Fish Hatchery for both Chinook and Sockeye Salmon. A variety of research continues to be undertaken including cryopreservation of sperm on selected chinook stocks, monitoring supplementation research projects, and natures rearing programs at Sawtooth and Clearwater Fish Hatcheries.

Loss of Production

In 1996/1997, spring and summer chinook salmon brood escapements and egg takes were below potential hatchery capacity and mitigation goals. Smolt releases will continue to be well below hatchery production goals for the 1999 release. The 2000 brood year is expected to be up some for spring and summer chinook returning to the Clearwater River, South Fork of the Salmon River, and Rapid River, however the upper Salmon River is expected to be below hatchery goals.

Trends in Production

Hatchery production along with natural production continues to suffer due to low numbers of returning adults to Idaho. Abundant water conditions have allowed some hatchery runs to rebound slightly, but are expected to continue to decline over time due to migration corridor constraints. Wild and natural run fish continue to decline.

3. 2000 UPDATE REPORT FOR THE SALMONID ENHANCEMENT PROGRAM IN BRITISH COLUMBIA

SIGNIFICANT CHANGES IN PROGRAM

SOUTH COAST

East Coast Vancouver Island

BIG QUALICUM: Chum returns were very low, less than 10 percent of target escapement. The resulting chum fry migration (2001) was greater than expected possibly due to relatively mild winter conditions. The female portion of the escapement was well below fifty percent of the adult returns. Hatchery production goals were achieved for both chinook and coho. Chinook returns were good. Coho escapement to the river was lower than expected with a good mix of fish sizes. There was a mark only sport fishery for coho. The habitat improvements to the river have contributed to increased natural coho smolt production.

LITTLE QUALICUM: Returns and fry migration followed the same patterns as those for Big Qualicum.

CHEMAINUS: Chinook escapement was poor and the hatchery did not achieve their chinook egg target. The chinook returns expected for 2001 are poor. Coho were present but not in great numbers. The hatchery coho egg target was achieved.

PUNTLEDGE: Pink salmon returns were good. The chum returns were below average. The chinook summer run escapement was improved compared to previous years with large numbers of jacks and three-year-olds in the escapement. A portion of the eggs will be taken to Rosewall Hatchery for incubation and rearing, both to increase smolt growth and for a fourth year of a captive brood program. The captive brood program is expected to yield eggs in 2001. The fall run chinook escapement was greatly improved compared to previous years with the hatchery achieving their fall chinook egg targets from within the system. Coho escapements were good with large numbers of jacks in the returns. Steelhead returns continue to be very weak but improving.

West Coast Vancouver Island

CONUMA: Chum escapements to Tlupana Inlet were much reduced from those of previous years. The hatchery did not achieve the 2000 egg targets for all systems. The chinook escapement was below that of previous years but within the target escapement goal. We expect poor returns for the next few years as a result of warm ocean conditions experienced in the juvenile years. However, chinook jack escapement indicates that returns may be better than predicted. Coho returns are much improved over those of previous years.

NITINAT: The chum escapements were very low with virtually no fishery. The hatchery chum egg targets were not achieved. Chinook escapement was well below previous years, with weak returns of 3 year and 4 year old chinook that indicate poor returns in the near future. The hatchery achieved chinook egg production goals. Coho escapements were good. The hatchery continues to support the Sarita River chinook enhancement efforts.

ROBERTSON CREEK: Total chinook escapement was well below the target escapement. The hatchery did not achieve its egg target. The three-year-old and four-year-old components of the returns were poor, indicative of very weak returns in the near future. The hatchery continues to support the Nahmint River chinook program. Coho returns were excellent, with a large number of coho jacks present in the escapement. Chinook otolith marking continues and the coho fin-clipping program for selective fisheries was carried out on the 1999 brood.

CENTRAL COAST

QUINSAM: Chinook adult escapement continues to improve. This may reflect the fishery closure at the mouth of the Campbell River. Chinook jack returns were good. The coho return was excellent with the hatchery achieving egg targets. A large number of coho jacks returned to the system. Pink escapement was strong. Chum escapement to Campbell River system was very low. The hatchery is undertaking several programs with the community and B.C. Hydro to improve water flow control and productivity of the Campbell River system. An estuary management plan has been developed with Campbell River municipality and is initiating several habitat improvement projects and land purchases within the estuary.

SNOOTLI: There were good adult returns for chum and pink salmon although below escapement goals. The chinook are returning in good numbers at or near target escapement, while supporting a local food fishery and a small commercial fishery. The coho escapement was good for both the upper systems and the lower Bella Coola stocks. The hatchery continues to support enhancement efforts for Rivers Inlet chinook stocks. Snootli hatchery was expanded to accommodate Rivers Inlet and Smiths Inlet sockeye rebuilding program. The expansion consisted of an isolation incubation and rearing area for a sockeye capacity of approximately six hundred thousand partially fed fry.

NORTH COAST

KITIMAT: The steelhead program continues to be a success. The chinook returns were good. Coho escapement to the Kitimat River continues to be strong. Chum escapement was good, although below the previous year's levels. The hatchery chum egg targets were not achieved for one system due to inclement weather conditions during the spawning season. Overwinter river flow conditions were good for natural incubation.

PALLANT: Chum and coho escapements were very good. The Haida, in partnership with DFO, now operates the hatchery. The chum egg targets have been increased to twenty four million eggs and the coho egg targets have increased to nine hundred thousand eggs. The experimental coho lake pen rearing program is showing promise with the first adult returns expected in 2001.

FRASER RIVER AND NORTHERN B.C.

Lower Fraser

CHEHALIS: The fall of 2000 coho returns appeared strong with intensive sport fishing activity on both the Chehalis and Harrison Rivers. All hatchery released coho are adipose clipped. Due to a reduction in targets, the spring of 2000 chum production was the lowest on record with only 1.2 M fry released. Brood year 2000 chum returns were very low, with a total escapement to the river estimated at 45 K. The chum egg take was increased back to the 1998 brood level of 4M. While not as low as in some years in the mid-nineties, the return of Harrison white chinook was down from the past two years.

CHILLIWACK: Coho escapement was lower than in the previous year. Fall chinook were down slightly from the previous year. Science Branch initiated a mark-recapture program for assessment of the fall otolith-marked chinook. The hatchery did not meet its egg target for fall chinook due to an extremely low return directly to the hatchery. Harrison chinook, the original transplant stock, were brought in to make up the shortfall. Chum escapements were down quite noticeably from the previous few years. Production of chum was reduced in 1999 from 5M fed fry to 1M unfed fry and this plan continues. This decision was based on large returns and a very low fishery due to measures taken to protect co-migrating Thompson coho and steelhead. The river sport fishery continues at an extremely high level. Both coho and steelhead are mark only (adipose clip) fisheries on the Chilliwack River. There is concern for some wild coho tributary stocks, particularly late timing groups.

INCH: Chum escapements to Inch Creek and Stave River were down slightly from previous years. Coho escapements were also down, particularly to the Stave, where the hatchery did not achieve its target. A large recreational fishery continued on the Nicomen and Stave systems. The Stave was opened for a limited chinook sports fishery in 2000, based on a strong expected return that did not materialize. The Stave chinook target was not achieved and a transplant from Harrison River made up part of the shortfall. Conservation work on Maria Slough chinook continues. Mass marking of hatchery coho continues as well as significant marking of chinook and chum for stock assessment.

UPPER PITT: For the spring of 2000, 5.7 M sockeye fry were released from the facility. In addition, an estimated 2.6 M fry were produced from the hatchery operated spawning channel. For the fall of 2000, the preliminary escapement estimate is 46 K sockeye. From that escapement, sufficient broodstock were collected to allow for an egg-take of 5.5 M.

WEAVER CREEK: Even though the presence of the parasite *Parvicapsula minibicornis* amongst returning 1999 brood adults resulted in high prespawning losses, the spring of 2000 sockeye egg to fry survival rate was 76%, resulting in 31 million fry being produced. For brood year 2000, another early migration/parasite year resulted in only 2800 females being loaded into the channel (17% of target).

Mainland

CAPILANO: Projected smolt release numbers for chinook and steelhead were achieved, but coho numbers were lower than planned. The hatchery continued to have problems during incubation and early rearing of coho. Capilano adult coho returns provided excellent terminal tidal and non-tidal sports fishing opportunities. All coho are adipose clipped for mark-only selective fisheries but none were coded-wire tagged due to budget constraints. Coho adult returns to the hatchery itself were lower than average but the egg target was achieved. Some of the 2000 brood fry will be sent to Chehalis to overwinter, in case of problems during upgrading of the Cleveland Dam, upstream of Capilano H. Adult returns from transplants of Chilliwack white chinook eggs were much lower than was anticipated and the hatchery received a transplant from the Harrison River.

TENDERFOOT: The chinook egg target was reduced from 1.9M to 1.5 M in 2000. Coho escapements were lower than in the previous year and eggs were not obtained from the Mamquam River. Extra Tenderfoot Creek coho and chum eggs were taken for fry releases to new and underseeded habitat restoration projects.

Thompson River

SHUSWAP: Average chinook escapements to the Middle Shuswap and strong escapements to the Lower Shuswap resulted in egg targets for both being met. For the third consecutive year, the facility has been involved in enhancement of two local coho stocks of conservation concern. New construction/engineering modifications to the facility enabled the site to function as the incubation/early rearing location for 2.2 M eggs taken from the 2000 Upper Adams sockeye stock as part of ongoing rebuilding efforts.

SPIUS: For the second consecutive year, stronger coho escapements to the Coldwater River enabled the egg collection target to be attained. For the Salmon River, a poor return concentrated in the lower reaches of the system resulted in no broodstock being collected. Spius took over all Eagle River coho production for 2000 while Shuswap is working on the Upper Adams sockeye. This will be the final year of enhancement on the Eagle as the run is one of the strongest in the Thompson system. Given strong recent escapements, production of Deadman River chinook ceased.

Upper Fraser

HORSEFLY: From a fully loaded channel in the fall of 1999, 23.7 M fry were produced, giving a calculated egg to fry survival rate of just over 85%. For brood year 2000, only slightly over 1 K adults were loaded from the stock's weakest cycle year.

NADINA: For reasons unknown, the spring of 2000 egg to fry survival rate was low at just 27%, resulting in the production of 2.8 M fry. For brood year 2000, the largest watershed escapement on record (~ 190 K) resulted in the channel being loaded to capacity with 35 K adults. A prespawning mortality rate of nearly 17% combined with slightly higher egg retention resulted in a channel egg deposition of just over 32 M. For the summer of 2001, the channel gravel replacement work initiated in 1994 is scheduled for completion.

Upper Skeena

FULTON AND PINKUT: The spring programs for brood year 1999 resulted in total fry production in 2000 from both sites of 100.3 M. This was very close to the previous year but a 40% reduction from the usual average. For the fall of 2000, sufficient adults returned to fully load both projects. Fry output is expected to be 45% of the long-term average. No disease problems were experienced at Pinkut but some pre-spawn mortalities were experienced at Fulton.

Resource Restoration and Development Division

HABITAT RESTORATION: The Resource Restoration Division, in concert with the Development Division, continues to implement habitat restoration projects throughout B.C. Funding for the projects was derived, in part, from other programs such as B.C. Hydro, Watershed Restoration Plan (Forest Renewal B.C.), Habitat Conservation Fund and Pacific Salmon Foundation. In addition to project implementation, technical staff have assisted in training contractors and have participated in workshops that will set the direction for future habitat rehabilitation projects throughout B.C.

HRSEP: The Habitat Restoration and Salmon Enhancement Program (HRSEP) was first established in 1996/97, and has over the years funded projects for a total value of over $30 million. The main objective of the federally funded HRSEP is to revitalize salmonid populations in the Pacific Region through habitat restoration, stock rebuilding and resource and watershed stewardship. Each year, HRSEP contractually funds over one hundred worthwhile habitat restoration works, stewardship initiatives and stock rebuilding activities operated and administered by a variety of community groups and agencies.

Community Involvement Division

SEP's Community Involvement Division (CID) continues to manage four parts of the Salmonid Enhancement Program: the Community Economic Development Program (CEDP), the Public Involvement Program (fish production projects), information dissemination concerning CID (public displays, brochures, newsletters, etc. on various topics including fish production techniques, habitat restoration and educational concerns) and the Education Program (including Salmonids in the Classroom). No major changes to the program occurred in 2000.

Lake Enrichment Program

Two sockeye salmon nursery lakes on Vancouver Island were fertilized weekly from May to September 2000 with a liquid fertilizer high in phosphorus and nitrogen. Monitoring of nutrient levels, phytoplankton and zooplankton levels over many years in these lakes has indicated that the nutrients move quickly up the food chain to stimulate the productivity of the lake. The application work was again carried out using small power boats rather than aircraft.

Great Central Lake was fertilized using twice the loading rates as in previous years due to a concern that the boats did not distribute the fertilizer as well as the airplanes had done. A water clarity problem resulted and loading rates will return to past year's rates in 2001. Woss Lake, in the Nimpkish system, was also fertilized in a joint project with the Nimpkish River Management Board. This program is planned to continue in 2001. Henderson Lake was not fertilized for the first time in 25 years due to a low expected fry recruitment, high costs and logistical problems with the fertilizer supplier. It will not be fertilized in 2001. Adams Lake will be fertilized again in 2001. A background study on Chilliwack Lake has been proposed in preparation for possible future fertilization.

4. 2000 ANNUAL REPORT ON THE SALMONID ENHANCEMENT ACTIVITIES OF THE UNITED STATES

This report had not been received by March 31, 2001.

Reports of the Joint Technical Committees

PART V
REPORTS OF THE JOINT TECHNICAL COMMITTEES

Executive summaries of reports submitted to the Commission by the joint technical committees during the period April 1, 2000 to March 31, 2001 are presented in this section. Copies of the complete reports are available from the library of the Pacific Salmon Commission.

A. JOINT CHINOOK TECHNICAL COMMITTEE

Joint Chinook Technical Committee Report. Catch and Escapement of Chinook Salmon under Pacific Salmon Commission Jurisdiction, 1997-2000. TCChinook (01)-1. March, 2001.

The June 30, 1999 Pacific Salmon Treaty Annexes and Related Agreements (Agreement) substantially changed the objectives and structure of the Pacific Salmon Commission's (PSC) chinook salmon fisheries and assessment of chinook salmon stocks. The Agreement eliminated the previous ceiling and pass-through fisheries and replaced them with Aggregate Abundance Based Management (AABM) and Individual Stock Based Management (ISBM) fisheries. It also directed the Chinook Technical Committee (CTC) to establish Maximum Sustained Yield (MSY) or other biologically based escapement goals for chinook stocks (agreed to goals). It further instructed the CTC to evaluate the status of chinook stocks based on these agreed to goals.

Beginning this year, the CTC is changing its annual reporting format. Previously, we provided a single annual report with catches, escapements and exploitation rates. In this report, we provide a summary of fishery catches by region and an assessment of escapement for those stocks which have CTC agreed goals. In addition, escapement data and agency comments have been provided for those stocks which do not currently have agreed to goals. Beginning this year, we will provide a second annual report, available in May that will summarize the exploitation rate analysis and results of the calibration for the 2001 fisheries.

B. JOINT CHUM TECHNICAL COMMITTEE

No reports were finalized for publication by this Committee during this reporting period.

C. JOINT COHO TECHNICAL COMMITTEE

No reports were finalized for publication by this Committee during this reporting period.

D. JOINT NORTHERN BOUNDARY TECHNICAL COMMITTEE

Joint Northern Boundary Technical Committee: U.S./Canada Northern Boundary Area 1999 Salmon Fisheries Management Report and 2000 Preliminary Expectations Report. TCNB (01)-1, January 2001.

E. JOINT TRANSBOUNDARY TECHNICAL COMMITTEE

Joint Transboundary Technical Committee. Salmon Management and Enhancement Plans for the Stikine, Taku and Alsek Rivers, 2000. TCTR (00)-2. November, 2000.

Management of transboundary river salmon to achieve conservation, allocation and enhancement objectives, as stipulated by the Pacific Salmon Treaty, requires a co-operative approach by Canada and the United States. It is important that both Parties have a clear understanding of the objectives and agree upon procedures to be used in managing the fisheries, including the criteria upon which modifications of fishing patterns will be based. This document is intended to facilitate co-operative salmon management and research on transboundary stocks of the Stikine, Taku, and Alsek Rivers conducted by the Canadian Department of Fisheries and Oceans (DFO), the Tahltan First Nation (TFN), the Iskut First Nation (IFN), the Taku River Tlingit First Nation (TRTFN), Champagne/Aishihik and the Alaska Department of Fish and Game (ADF&G).

The report contains, by river system and species, the 2000 salmon forecasts, spawning escapement goals, a summary of harvest sharing objectives, and an outline of management procedures to be used during the conduct of the 2000 fisheries. With the exception of Stikine sockeye salmon, for which a numerical forecast is required by the Pacific Salmon Treaty and by the Stikine Management Model and Taku River sockeye salmon, forecasts are given qualitatively, with reference to brood year escapement data where available. The report also contains joint plans for fry plants and egg collections in 2000 and proposed transboundary field projects for the year, identifying agency responsibility and contacts for the various functions within the projects.

F. JOINT TECHNICAL COMMITTEE ON DATA SHARING

Joint Technical Committee on Data Sharing. Report on the 2000 Status of PSC Database Development. TCDS (01)-1. February, 2001.

The commitment of Canada and the United States to develop a coast-wide stock assessment and data management system for Pacific salmon is detailed in the 1985 Memorandum of Understanding attached to the Pacific Salmon Treaty. In this memorandum, the Pacific Salmon Commission (PSC) formed the Data Sharing Committee (DSC), placing it under the direction of the Standing Committee on Research and Statistics. The primary functions of the DSC are to facilitate data exchange between Canada and the U.S. by developing, maintaining, and updating, as necessary, data exchange programs, identifying any problem areas that may exist, and developing standard methods of reporting and analyzing salmon and fisheries data of importance for both nations. Current key responsibilities include maintaining and updating the coast-wide coded wire tag (CWT) database exchange format, monitoring the status of exchanged data, developing a coast-wide catch and effort database exchange format, and addressing the new recording needs of mass-marking and selective fishery data.

Major topics under consideration by the Data Sharing Committee and its working group in 2000 were:

- the proposed CWT exchange format Version 4.0;
- the data elements required to support mass-marking and selective fishery analyses;
- the catch and effort exchange specification Version 1.0; and,
- the content of a fisheries regulations file.

Recommendations by the Data Sharing Technical Committee include:

- Agencies should continue to work towards exchanging a set of test data in Format Version 4.0 by midyear, 2001.

- Given the recent declines in the number of CWT recoveries for both coho and chinook, the Data Sharing Committee and other PSC technical committees dependent on CWT data for their work (COTC, CTC, SFEC) should monitor the database to ensure that the number of recoveries meets their analytical needs. Any concerns should be shared, and passed to the Commission by the Data Sharing Committee. Where it is possible and practical to correct the problem by increasing tagging rates or sampling rates, such recommendations should be forthcoming from the Commission.

- The Chinook Technical Committee, Coho Technical Committee, and Selective Fisheries Evaluation Committee should assume responsibility for providing tables of specially used tag codes to the data exchange points to help ensure other analysts are making appropriate use of the database.

G. JOINT SELECTIVE FISHERY EVALUATION COMMITTEE

No reports were finalized for publication by this Committee during this reporting period.

Publications of the Pacific Salmon Commission

PART VI
PUBLICATIONS OF THE PACIFIC SALMON COMMISSION

Documents listed herein are available to domestic fishery agencies of Canada and the United States, research organizations, libraries, scientists and others interested in the activities of the Commission, through the offices of the Secretariat, 600 - 1155 Robson Street, Vancouver, B.C., V6E 1B5. Photocopying charges may be levied for documents which are out of print.

Documents listed here are those which were published during the period from 2000/01 inclusive. For previous publications, please refer to the Pacific Salmon Commission 1994/1995 Tenth Annual Report and 1999/2000 Fifteenth Annual Report, or contact the Pacific Salmon Commission Library.

A. ANNUAL REPORTS

15. Pacific Salmon Commission 1999/2000 Fifteenth Annual Report. January 2001.

B. REPORTS OF JOINT TECHNICAL COMMITTEES

i. Joint Chinook Technical Committee

36. TCCHINOOK (01)-1 – *Catch and Escapement of Chinook Salmon under Pacific Salmon Commission Jurisdiction, 1997-2000.* March, 2001.

ii. Joint Chum Technical Committee

No reports were finalized for publication during this reporting period.

iii. Joint Coho Technical Committee

No reports were finalized for publication during this reporting period.

iv. Joint Data Sharing Technical Committee

9. TCDS (01)-1 – *Report on the 2000 Status of PSC Database Development.* February, 2001.

v. Joint Northern Boundary Technical Committee

21. TCNB (01)-1 – *U.S./Canada Northern Boundary Area 1999 Salmon Fisheries Management Report and 2000 Preliminary Expectation.* January, 2001.

vi. Joint Transboundary Technical Committee

33. TCTR (00)-2 – *Salmon Management and Enhancement Plans for the Stikine, Taku and Alsek Rivers, 2000.* November, 2000.

vii. Selective Fishery Evaluation Committee

No reports were finalized for publication during this reporting period.

C. REPORTS OF THE FRASER RIVER PANEL

No reports were finalized for publication during this reporting period.

D. TECHNICAL REPORT SERIES OF THE PACIFIC SALMON COMMISSION

No reports were finalized for publication during this reporting period.

E. PUBLICATIONS BY PACIFIC SALMON COMMISSION SECRETARIAT STAFF

29. Xie, Y. 2000. *A range-dependent echo-association algorithm and its application in sonar tracking of migratory salmon in the Fraser River watershed.* IEEE J. Oceanic 387-398.

30. Hedgepeth, J.B., D. Fuhriman, G.M., W. Cronkite, Y. Xie, and T.J. Mulligan. 2000. *A transucer for following fish movement in shallow water and at close range.* Aquat. Resour. 13(5): 263-408.

F. REPORTS OF THE INTERNATIONAL PACIFIC SALMON COMMISSION

Responsibility for maintenance of the library of the International Pacific Salmon Fisheries Commission, on its termination December 31, 1985, was transferred to the Pacific Salmon Commission. Documents in the Library include historical archival papers which are available to researchers and other interested parties through contact with the Pacific Salmon Commission's Librarian.

Publication of John F. Roos' History of the International Pacific Salmon Fisheries Commission, and P. Gilhousen's Estimation of Fraser River Sockeye Escapements ended all publication series of the International Pacific Salmon Fisheries Commission. Copies of all in-print Progress Reports and Bulletins of the International Pacific Salmon Fisheries Commission are available free of charge through the Library of the Pacific Salmon Commission. Copies of the History of the International Pacific Salmon Fisheries Commission may also be ordered through the Library of the Pacific Salmon Commission.

G. DOCUMENTS SUBMITTED BY THE PARTIES

In compliance with provisions of the Treaty, the Parties provide annual post-season fishery reports and updates on their respective salmonid enhancement programs to the Commission. Documents received during 2000/01 were:

1. *2000 Post Season Report for Canadian Treaty Limit Fisheries.* Canada Department of Fisheries and Oceans. November 30, 2000.

2. *2000 Post Season Report for United States Salmon Fisheries of Relevance to the Pacific Salmon Treaty.* United States Section, Pacific Salmon Commission.

3. *1999 Update Report for the Salmonid Enhancement Program in British Columbia.* Canada Department of Fisheries and Oceans. May, 2000.

4. *1999 Annual Report on the Salmonid Enhancement Activities in Pacific Salmon Treaty Areas of the United States.* United States Section, Pacific Salmon Commission. April,.2001.

5. *2000 Annual Report on the Salmonid Enhancement Program in British Columbia.* Canada Department of Fisheries and Oceans. May, 2001.

6. *Northern and Southern Fund Committees Briefing Book.* Canadian Section, Pacific Salmon Commission. February, 2001.

Report of the Auditors for 2000/2001

PART VII

AUDITORS' REPORT AND FINANCIAL STATEMENTS FOR THE PERIOD APRIL 1, 2000 TO MARCH 31, 2001

Financial Statements of

PACIFIC SALMON COMMISSION

Years ended March 31, 2001 and 2000

AUDITORS' REPORT TO THE COMMISSIONERS

We have audited the statement of financial position of the Pacific Salmon Commission as at March 31, 2001 and the statements of financial activities and fund balances for the year then ended. These financial statements are the responsibility of the Commission's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by the Commission, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Commission as at March 31, 2001 and the results of its operations for the year then ended in accordance with the Financial Regulations of the Commission as described in note 2 to the financial statements.

Our audit was conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The current year's supplementary information included in the schedule is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such supplementary information has been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

Chartered Accountants

New Westminster, Canada

June 1, 2001

PACIFIC SALMON COMMISSION

Statements of Financial Position

March 31, 2001 and 2000

	General Fund	Working Capital Fund	Test Fishing Fund	Special Research Fund	Capital Assets Fund	2001 Consolidated	2000 Consolidated
Assets							
Current assets							
Cash and cash equivalents	$ 545,360	$ 100,000	$ 50,000	$ 50,000	$ -	$ 745,360	$ 508,317
Accounts receivable	21,021	-	-	-	-	21,021	38,269
Interest receivable	7,315	-	-	-	-	7,315	2,064
Prepaid expenses	19,669	-	-	-	-	19,669	17,707
	593,365	100,000	50,000	50,000	-	793,365	566,357
Capital assets (note 3)	-	-	-	-	222,271	222,271	246,520
	$ 593,365	$ 100,000	$ 50,000	$ 50,000	$ 222,271	$ 1,015,635	$ 812,877
Liabilities and Fund Balances							
Current liabilities:							
Accounts payable and accrued liabilities	$ 199,873	$ -	$ -	$ -	$ -	$ 199,873	$ 91,182
Fund balance (note 4)	393,492	100,000	50,000	50,000	222,271	815,763	721,695
	$ 593,365	$ 100,000	$ 50,000	$ 50,000	$ 222,271	$ 1,015,636	$ 812,877

See accompanying notes to financial statements.

Approved on behalf of the Commission:

__"R. Rousseau"__________ Chair, Standing Committee on Finance and Administration

__"D. Petrachenko"________ Vice-Chair, Standing Committee on Finance and Administration

PACIFIC SALMON COMMISSION

Statements of Financial Activities and Fund Balances

Years ended March 31, 2001 and 2000

	General Fund	Working Capital Fund	Test Fishing Fund	Special Research Fund	Capital Assets Fund	2001 Consolidated	2000 Consolidated
Fund balance, beginning of year	$ 374,514	$ 100,661	$ -	$ -	$ 246,520	$ 721,695	$ 1,160,363
Revenue:							
Contributions from contracting parties	2,112,661	-	-	-	-	2,112,661	1,600,000
Interest	44,925	4,873	-	-	-	49,798	45,991
Gain on disposal of capital assets	(2,041)	-	-	-	-	(2,041)	2,087
Other	530	-	-	-	-	530	7,301
Test fishing	964,890	-	-	-	-	964,890	1,055,659
	3,120,965	4,873	-	-	-	3,125,838	2,711,038
Expenditures:							
Amortization	-	-	-	-	105,335	105,335	122,182
Salaries and employee benefits	1,766,263	-	-	-	-	1,766,263	1,578,957
Travel and transportation	114,708	-	-	-	-	114,708	128,586
Rents and communication	88,296	-	-	-	-	88,296	110,845
Printing and reproductions	10,116	-	-	-	-	10,116	10,963
Contract services	209,058	-	-	-	-	209,058	260,740
Materials and supplies	44,375	-	-	-	-	44,375	54,289
Test fishing	686,206	-	-	-	-	686,206	883,144
Meeting cost	-	7,413	-	-	-	7,413	-
	2,919,022	7,413	-	-	105,335	3,031,770	3,149,706
Excess (deficiency) of revenue over expenditures	201,943	(2,540)	-	-	(105,335)	94,068	(438,668)
Transfer to Working Capital Fund	(1,879)	1,879	-	-	-	-	-
Transfer to Test Fishing Fund	(50,000)	-	50,000	-	-	-	-
Transfer to Special Research Fund	(50,000)	-	-	50,000	-	-	-
Transfer to Capital Asset Fund	(81,086)	-	-	-	81,086	-	-
Fund balance, end of year	$ 393,492	$ 100,000	$ 50,000	$ 50,000	$ 222,271	$ 815,763	$ 721,695

See accompanying notes to financial statements.

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1. Nature of organization:

The Pacific Salmon Commission was established by Treaty between the Governments of Canada and the United States of America to promote cooperation in the management, research and enhancement of Pacific salmon stocks. The Treaty was ratified on March 18, 1985 and the Commission commenced operations on September 26, 1985.

2. Significant accounting policies:

(a) Revenue recognition:

The Commission follows the restricted fund method of accounting for contributions from contracting parties. Externally restricted contributions are recognized as revenue in the year in which they are received. Unrestricted contributions or other income are recognized as revenue when the amount can be reasonably estimated and collection is reasonably assured.

(b) Fund accounting:

The General Fund includes funds provided annually through contributions from the Contracting Parties and any net surplus obtained through the test fishing program. By agreement of the Parties, any unexpended balance remaining at the end of one fiscal year may be used to offset contributions in the following year or may be used to offset a shortfall between contributions and approved expenditures in the following year.

The Capital Assets Fund reflects the Commission's capital asset transactions. Amortization is charged to the Capital Fund.

The Working Capital Fund represents monies contributed by the Parties to be used temporarily pending receipt of new contributions from the Parties at the beginning of a fiscal year, or for special programs not contained in the regular budget but approved during the fiscal year. Any surplus above a pre-determined fixed limit in the account at the end of the fiscal year is transferred to the General fund and is treated as income.

The Test Fishing Fund is established as a revolving fund in which a portion of net test fishing revenues realized in years of high abundance are reserved to be used to support test fishing programs in year of low abundance and when conservation concerns are an issue.

The Special Research Fund represents monies set aside to fund additional programs to investigate problems of early arrival of late run Fraser River stocks.

The Yukon River Salmon Restoration and Enhancement Fund reflects funding provided for a separate entity, the Yukon River Panel.

3. Significant accounting policies (continued):

(c) Fund accounting (continued):

The Northern Boundary and Transboundary Rivers Restoration and Enhancement Fund and the Southern Boundary Restoration and Enhancement Fund reflects funding to be held by the Commission. The income earned on these contributions is to be distributed by the Commission as directed by the Northern Enhancement Committee and the Southern Enhancement Committee.

(d) Basis of accounting:

The operations of the Commission are generally accounted for on an accrual basis except that purchase order expenditures are recognized at the time that the commitment for goods and services are made, rather than at the time that the goods or services are delivered.

(e) Portfolio investments:

Portfolio investments are recorded at cost.

(f) Capital assets:

Capital assets are stated at cost. Costs of repairs and replacements of a routine nature are charged as a current expenditure while those expenditures which improve or extend the useful life of the assets are capitalized. Amortization is provided using the straight-line method of rates sufficient to amortize the costs over the estimated useful lives of the assets. The rates of amortization used on a annual basis are:

Automobiles	20%
Boats	20%
Computer equipment and software	30%
Equipment	20%
Furniture and fixtures	10%
Leasehold improvements	10%

(g) Income taxes:

The Commission is a non-taxable organization under the Privileges and Immunities (International Organizations) Act (Canada).

2. Significant accounting policies (continued):

(h) Post-retirement benefits and change in accounting policy:

The Commission adopted the Canadian Institute of Chartered Accountants ("CICA") Section 3461 on employee future benefits and applied the recommendations on a prospective basis. These benefits included a defined benefit pension plan, which is funded by the Commission on an annual basis and severance, life insurance and medical benefits, which are funded by the Commission as they become due. The Commission recognizes the cost of these benefits over the period in which the employees render services to the Commission in return for the benefits.

(g) Post-retirement benefits and change in accounting policy (continued):

Any cumulative unrecognized actuarial gains and losses in excess of 10% of the projected benefit obligation will be amortized over the expected average remaining service life of the employee group covered by this program.

As at April 1, 2000, the Commission has an estimated transition asset of $26,854, which is being amortized over 15 years, being the expected average remaining service life of the related employee group.

(i) Foreign exchange translation:

Transactions originating in foreign currencies are translated at the exchange rate prevailing at the transaction dates. Assets and liabilities denominated in foreign currency at the balance sheet date are translated to equivalent Canadian amounts at the current rate of exchange. Foreign exchange gains and losses resulting from translation are included in the determination of excess or deficiency of revenue over expenditures.

(j) Use of estimates:

The preparation of financial statements in conformity with Canadian generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Significant areas requiring the use of management estimates relate to the determination of the valuation of accounts receivable, useful lives of capital assets for amortization and accrued liabilities. Actual results could differ from those estimates. Adjustments, if any, will be reflected in operations in the period of settlement.

(k) Statement of cash flows:

A statement of cash flows has not been provided as it would not provide any additional meaningful information.

4. Capital assets:

	Cost	Accumulated amortization	2001 Net book value	2000 Net book value
Automobiles	$ 128,725	$ 108,930	$ 19,795	$ 34,400
Boats	92,231	81,315	10,916	5,707
Computer equipment	453,374	412,595	40,779	38,817
Equipment	607,928	508,453	99,475	129,721
Furniture and fixtures	252,707	235,867	16,840	18,198
Computer software	121,851	118,094	3,757	6,459
Leasehold improvements	55,285	24,576	30,709	13,218
	$ 1,712,101	$ 1,489,830	$ 222,271	$ 246,520

5. General fund balance:

The Commission has approved a carryover of the unexpended funds in the General Fund to be utilized as follows:

	2001	2000
(a) Continuing operations	$ 373,823	$ 356,807
(b) Reserve for prepaid expenses	19,669	17,707
	$ 393,492	$ 374,514

6. Employee benefits:

The Commission has a defined benefit plan providing pension and other retirement and post-employment benefits to most of its employees. The amounts presented in this note are actuarial-determined projections:

5. Employee benefits (continued):

		Pension Plan
Reconciliation of accrued benefit asset (obligation):		
Opening balance	$	(2,631,136)
Current service cost		(140,975)
Benefits paid		64,818
Interest cost		(230,448)
Reciprocal transfer		(583,240)
Ending balance	$	(3,520,981)
Reconciliation of plan assets:		
Opening balance	$	2,657,995
Actual return on plan assets		417,081
Employer contributions		79,333
Employee contributions		61,642
Benefits		(64,818)
Reciprocal transfer		583,240
Adjustment		(5,153)
Ending balance	$	3,729,320
Fund status - surplus (deficit)	$	208,339
Unamortized transitional obligation and actuarial gain		(212,597)
Accrued benefit liability	$	(4,258)
Discount rate		7%
Expected long-term rate of return on plan assets		7%

The plan asset portfolio currently comprises equity investments and debt. Equity investments are 74% of the portfolio and include Canadian, International and real estate investments. Debt is 26% of the portfolio and comprises short-term debt, bonds and mortgages. Asset mix is reviewed periodically and may vary in the future.

5. Employee benefits (continued):

The Commission's net benefit plan expense is as follows:

	2001
Current service cost (less employee contributions)	$ 79,333
Interest cost	230,448
Expected return on plan assets	(229,552)
Amortization of transitional asset, actuarial gains and losses	(1,790)
Actuarial adjustment	5,153
Net benefit plan expense	$ 83,592

7. Financial instruments:

The financial instruments consist of cash and cash equivalents, bonds, equity securities, amounts receivable, interest receivable and amounts payable and accrued liabilities. The carrying amounts of these financial instruments are a reasonable estimate of their fair values.

PACIFIC SALMON COMMISSION

Statement of Fund Balances and Activity

Schedule 1

Northern Boundary and Transboundary Rivers Restoration
and Enhancement Fund
(stated in Canadian Funds)

March 31, 2001 and 2000

	2001	2000
Assets		
Cash and term deposits	$ 191,649	$ 14,581,071
Portfolio investments (market value - $43,981,347)	47,777,088	-
Interest receivable		101,056
	$ 47,968,737	$ 14,682,127
Liabilities		
Accounts payable and accrued liabilities	$ 118,830	$ -
Fund balance	47,849,907	-
	$ 47,968,737	$ -

Summary of Activity

	2001	2000
Fund balance, beginning of year	$ 14,682,127	$ -
Revenue:		
Contribution	30,619,187	14,592,985
Interest earned on term deposit	992,251	188,315
	46,293,565	14,781,300
Expenditures:		
Bank fees	154	173
Meeting costs	1,276	-
Professional fees	95,945	-
Salaries	12,927	-
Telephone and communications	1,294	-
Travel and accommodation	28,215	-
	139,811	173
Net activity before foreign exchange adjustment	46,153,754	14,781,127
Foreign exchange adjustment	1,696,153	(99,000)
Fund balance, end of year	$ 47,849,907	$ 14,682,127

PACIFIC SALMON COMMISSION

Statement of Fund Balances and Activity

Schedule 2

Southern Boundary Restoration and Enhancement Fund
(stated in Canadian Funds)

March 31, 2001 and 2000

Assets

	2001	2000
Cash and term deposits	$ 194,714	$ 14,591,821
Portfolio investments (market value - $43,993,506)	47,790,277	-
Interest receivable	-	101,140
	$ 47,984,991	$ 14,692,961

Liabilities

	2001	2000
Accounts payable and accrued liabilities	$ 110,300	$ -
Fund balance	47,874,691	-
	$ 47,984,991	$ -

Summary of Activity

	2001	2000
Fund balance, beginning of year	$ 14,692,961	$ -
Revenue:		
Contributions	30,619,187	14,685,531
Interest earned on term deposit	986,878	200,584
	46,299,026	14,886,115
Expenditures:		
Bank fees	155	173
Meeting costs	1,055	-
Professional fees	91,117	-
Salaries	15,291	-
Telephone and communications	1,294	-
Travel and accommodation	12,821	-
	121,733	173
Net activity before foreign exchange	46,177,293	14,885,942
Foreign exchange adjustment	1,697,398	(192,981)
Fund balance, end of year	$ 47,874,691	$ 14,692,961

PACIFIC SALMON COMMISSION

Statement of Fund Balances and Activity

Schedule 3

Yukon River Salmon Restoration
(stated in Canadian Funds)

March 31, 2001 and 2000

	2001	2000
Assets		
Cash and term deposits	$ -	$ -
Interest receivable	-	-
	$ -	$ -
Liabilities		
Accounts payable and accrued liabilities	$ -	$ -
Summary of Activity		
Fund balance, beginning of year	$ -	$ -
Revenue:		
Contributions	322,973	-
Interest earned on term deposit	-	-
	322,973	-
Expenditures:		
Transfers to the Yukon River Panel	322,973	-
Fund balance, end of year	$ -	$ -

Appendices

Appendix A

Exchange of Diplomatic Notes regarding comprehensive agreement between the Parties Related to the Pacific Salmon Treaty signed on June 23, 1999

Canadian Embassy   Ambassade du Canada

Note No: 0203

The Embassy of Canada presents its compliments to the Department of State of the United States of America and has the honour to refer to the Treaty between the Government of Canada and the Government of the United States of America concerning Pacific Salmon, signed at Ottawa, January 28, 1985 (the "Treaty"), and to Canada's Note No. 225 dated June 30, 1999, with its attachments, and the Department of State's Note of the same date, which constitute an Agreement between the Government of Canada and the Government of the United States relating to Pacific Salmon (the "Agreement"), and refers to the recommendations made by the Pacific Salmon Commission in their identical letters of May 4, 2000, to the Minister of Foreign Affairs, the Honourable Lloyd Axworthy and the Secretary of State, the Honourable Madeleine Albright, in accordance with Article XIII of the Treaty. (A copy of the letter to Minister Axworthy is attached to this Note.)

The Embassy of Canada has the honour to propose that the following amendments be made to Annex IV to the Treaty:

1. In Chapter 4, paragraph 3, the first sentence is changed so that it read:

"For the purpose of this Chapter, the TAC shall be defined as the remaining portion of the annual aggregate Fraser River sockeye and pink runs (including any catch of Fraser River sockeye identified in Alaskan waters) after the spawning escapements, the agreed Fraser River Aboriginal Fishery Exemption, and the catch in Panel authorized test fisheries have been deducted."

.../2

2. In Chapter 4, paragraph 3(c), the last sentence is replaced by the following:

"The agreed Fraser River Aboriginal Fishery Exemption for 1999 is the actual catch of Fraser River sockeye harvested in the in-river Fraser River Aboriginal Fishery. For each year from 2000 until the expiration of this Chapter, the agreed Fraser River Aboriginal Fishery Exemption is the actual catch of Fraser River sockeye harvested in both the in-river and marine area Aboriginal Fisheries, up to 400,000 sockeye annually."

3. In Chapter 4, paragraph 3(d) is replaced by the following:

"(d) For computing TAC by stock management groupings, the Fraser River Aboriginal Exemption shall be allocated to management groups as follows: The Early Stuart sockeye exemption shall be up to 20% of the Fraser River Aboriginal Fishery Exemption, and the remaining balance of the latter exemption shall be based on the average proportional distribution for the most recent three cycles and modified annually as required to address concerns for Fraser River sockeye stocks and other species. For the duration of this Chapter, the harvest distribution of Early Stuart sockeye is expected to remain similar to that of recent years."

4. In Chapter 4, paragraph 4, the word "timing" is deleted and replaced with the word "size", so that the second sentence read: "For the purposes of pre-season planning, where possible, Canada shall provide forecasts of run size and spawning escapement requirements by stock management groupings to the Fraser River Panel no later than the annual meeting of the Commission."

/3

5. In Chapter 4, paragraph 8, the words "as defined in paragraph 2" are deleted and replaced with the words "of both countries" so that the first sentence read: "The shares of both countries shall be adjusted each year in the amount of any harvest overage or underage of that annual share of the same species from the previous year or years."

The Embassy of Canada has the further honour to propose that this Note, which is equally authentic in English and French, together with the affirmative Note in reply from the Department of State, shall constitute an agreement between the two Governments amending Annex IV to the Treaty, which shall enter into force on the date of the Department of State's reply.

The Embassy of Canada avails itself of this opportunity to renew to the Department of State the assurances of its highest consideration.

Washington D.C.
July 27, 2000

Canadian Embassy Ambassade du Canada

Note No: 0210

The Embassy of Canada presents its compliments to the Department of State of the United States of America and has the honour to refer to Canada's Note No. 225 dated June 30, 1999, with its attachments, and the Department of State's Note of the same date, which constitute an Agreement between the Government of Canada and the Government of the United States relating to Pacific Salmon.

The Embassy of Canada has the honour to propose that the following corrections be made to the English version of the attachments to said exchange of notes:

1. In Attachment A, paragraphs 6 and 7 of the Appendix to Annex IV, Chapter 2. be renumbered "4" and "5" respectively;

2. In Attachment A, the first word "and" be deleted in the 9th line of paragraph 2 (b) (i) of Annex IV, Chapter 3 so that the sentence in which this word appears read: "; Juan de Fuca marine net, troll and sport and freshwater sport and net;";

3. In Attachment B, the words "and adjacent off-shore areas" be added in each of paragraphs 3 (b) and (c) after the words "Areas 1,3,4 and 5";

4. In Attachment C, paragraph 6 regarding the Northern Boundary and Transboundary Rivers Restoration and Enhancement Fund, the word "annual" be deleted twice in the second

sentence so that the second sentence read: "Expenditures shall not exceed the earnings from the invested principal of the Northern Fund.";

5. In Attachment C, paragraph 6 regarding the Southern Boundary Restoration and Enhancement Fund, the word "annual" be deleted twice in the second sentence so that the second sentence read: "Expenditures shall not exceed the earnings from the invested principal of the Southern Fund.";

6. In Attachment C, paragraph 8 regarding the Northern Boundary and Transboundary Rivers Restoration and Enhancement Fund, the words "Chapters 1 and 2 of Annex IV" in the second sentence be replaced by the words "Chapters 1,2 and 3 of Annex IV" so that the second sentence read: "No funds may be disbursed from the Northern Fund after the expiration of the fishery arrangements in Chapters 1, 2 and 3 of Annex IV of the Pacific Salmon Treaty until new fishing arrangements are agreed by the Parties."; and

7. In Attachment C, paragraph 8 regarding the Southern Boundary Restoration and Enhancement Fund, the words "Chapters 4 and 5 of Annex IV" in the second sentence be replaced by the words "Chapters 3 to 6, inclusively, of Annex IV" so that the second sentence read: "No funds may be disbursed from the Southern Fund after the expiration of the fishery arrangements in Chapters 3 to 6, inclusively, of Annex IV of the Pacific Salmon Treaty until new fishing arrangements are agreed by the Parties.

If the above proposal is acceptable to the Government of the United States of America, the Embassy of Canada has the honour to propose that this Note, which is equally valid in English and French, and your affirmative Note in reply will constitute a correction to the Agreement.

Further to paragraph 10 of the Canadian Note no. 225, the Embassy of Canada has the further honour to propose that the attached French language text of the attachments to said Note, which reflects the corrections made above to the English language text of said attachments, constitute the verified and agreed upon French language text of said attachments to Note no. 225. In this connection, the Government of Canada waives the requirement contained in paragraph 10 of said Note that the text be verified and agreed upon by September 30, 1999.

The Embassy of Canada avails itself of this opportunity to renew to the Department of State of the United States of America the assurances of its highest consideration.

Washington D.C.
July 27, 2000

Appendix B

Annual Report – Fund Committees

Interim Report
2000-2001

Southern Boundary Restoration and Enhancement Fund

and

Northern Boundary and Transboundary Rivers Restoration and Enhancement Fund

February 19, 2001

Introduction

In June of 1999, the United States and Canada reached a comprehensive new agreement (the "1999 Agreement") under the 1985 Pacific Salmon Treaty. Among other provisions, the 1999 Agreement established two bilateral funds: the Northern Boundary and Transboundary Rivers Restoration and Enhancement Fund (Northern Fund); and the Southern Boundary Restoration and Enhancement Fund (Southern Fund). The purpose of the two funds is to support activities in both countries that develop improved information for resource management, rehabilitate and restore marine and freshwater habitat, and enhance wild stock production through low technology techniques. Subject to Congressional appropriations, the United States agreed to capitalize the Northern and Southern funds in the amounts of $75 million and $65 million,[3] respectively, over a period of up to four years. The 1999 Agreement also established a Northern Fund Committee and a Southern Fund Committee, each comprised of three nationals from each country, to manage the funds.

This interim report was prepared by the two fund committees to describe their progress to date in getting the funds organized. As such, it focuses on fund governance, administrative and investment policy development, and related foundational issues. Once the funds are entirely "up and running," formal reports will be provided at least annually to the Parties. Those reports will, among other things, describe the funds' investment performance, report on the nature and extent of expenditures made to support eligible projects, and provide an accounting of assets of the funds.

Formal establishment and initial capitalization of the funds

The 1999 Agreement stipulates that "annual expenditures shall not exceed the annual earnings from the invested principal" of the funds, a provision that essentially makes them permanent endowment funds, subject only to continuation of the Pacific Salmon Treaty. The U.S. legislation that appropriates monies to capitalize the funds contains the same basic provision, and further stipulates that "the Northern Fund and the Southern Fund shall be invested in interest bearing accounts, bonds, securities, or other investments in order to achieve the highest annual yield consistent with protecting the principal of each Fund." To establish the two funds and effectuate their administration consistent with the 1999 Agreement and the U.S. legislation, the governments of Canada and the United States entered into trust agreements in late 1999. The trust agreements entrust the funds to the Pacific Salmon Commission (PSC), the bilateral entity established by the two countries in 1985 to implement the Pacific Salmon Treaty.

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[3] All funds are in U.S. dollars unless otherwise stated.

The U.S. Congress authorized and appropriated $10 million for FY2000 for each fund ($20 million total); the money was transmitted to the PSC in late 1999 and early 2000. For FY2001, Congress appropriated a second installment of $20 million for each fund ($40 million total),[4] which is expected to be transmitted to the PSC in February 2001. Congress authorized a similar amount for FY2002 and the balance of the total commitment for FY2003. In addition to the amounts contributed by the United States, Canada contributed $250,000 (CDN) to each of the two funds (total of $500,000 CDN) in November 2000.

Fund committees

The terms of the 1999 Agreement and the U.S. implementing legislation provide that the Northern Fund and the Southern Fund will be administered by bilateral committees, each comprised of three Canadian and three U.S. members. The Northern Fund Committee and the Southern Fund Committee were formally established by the PSC in early 2000 and conforming bylaws adopted. The fund committee subsequently adopted Rules of Procedure to govern their internal organization. By June of 2000, Canada and the United States had identified their respective members of the committees. For the Northern Fund Committee, Canada appointed an official of the Canadian Department of Fisheries and Oceans (DFO) and one Canadian member from each of the PSC Northern and Transboundary Rivers panels; the United States appointed the Alaska Commissioner and Alternate Commissioner to the PSC and the Administrator of the Alaska Region of the National Marine Fisheries Service (NMFS). For the Southern Fund Committee, Canada appointed one official of DFO and one Canadian member from each of the PSC Southern and Fraser River panels; the United States appointed the Administrator of the Northwest Region of NMFS, one representative for the states of Washington and Oregon and one representative of the treaty tribes involved in the PSC.

Broadly speaking, the fund committees have two categories of responsibilities: (1) overseeing the investment of the funds to produce earnings that will support approved activities; and, (2) approving expenditures from the funds to support selected projects. Having finished the task of developing and adopting an investment policy for the funds, the Committees will now focus on developing spending policies and procedures for the acceptance, review, evaluation and approval of project proposals, as required by the 1999 Agreement. It will take some time before the funds have produced significant earnings that can be spent on projects. In recognition of this fact and in order to manage external expectations for access to the funds, the committees publicly disclosed their intention not to consider proposals or fund projects until 2002, at the earliest. The committees also announced that only modest expenditures on projects will occur in the first few years, until the funds are fully capitalized and producing sufficient income from investments to support more projects.

Committee activities and decisions

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[4] In actuality, the appropriated funds were subjected to a Congressionally-mandated across-the-board "hold-back" of 0.22%, which reduced the FY2001 amount to $19,956,000 for each fund ($39,912,000 total).

Fund governance. The committees have focused to date on developing internal administrative and operational procedures. Primary emphasis has been placed on responsibilities relating to investing the funds. The committees engaged the services of an established professional investment advisor, Hewitt Associates, to assist in developing governance structures, assessing the impact of alternative asset allocation policies, drafting an investment policy that meets the needs of the Funds and hiring professional fund managers to implement the investment policy. This set of organizational tasks has been completed prior to receipt from the United States of the FY2001 deposit into the Funds. The FY2000 monies already received from the United States, which had been temporarily placed in interest bearing money market accounts held by the PSC, were assigned to the investment managers as of February 2001.

Master trust issue. The committees have confronted and addressed a number of fundamental issues in organizing the Funds. The first involved whether to manage the Northern and the Southern funds under a "master trust" arrangement, with a single set of managers or to administer two separate funds and two sets of fund managers who are wholly independent. The committees agreed to establish a master trust that invests the Funds as if they were a single entity but that tracks the income and expenses as if each were a separate, independent fund. The master trust arrangement can offer greater efficiency (lower costs) in managing the investments, resulting ultimately in more money for projects. However, there are concerns that a master trust may constrain the discretion of the Northern and Southern committees to adopt different investment and/or expenditure strategies. The committees considered a number of options, and noted that there is, in fact, a substantial degree of concurrence in their respective views on initial investment strategies. Accordingly, they have agreed to operate under a master trust arrangement, at least until the Funds are capitalized to the levels specified in the 1999 Agreement and until the respective spending policies are clarified. This decision does not foreclose the option of dissolving the master trust arrangement and establishing two completely separate accounts in the future if distinct spending policies or other considerations indicate the wisdom of such separation.

Asset allocation and investment policy. Another set of issues involved how to invest the assets of the funds. As noted above, the two funds are required to be "...invested in interest bearing accounts, bonds, securities, or other investments in order to achieve the highest annual yield consistent with protecting the principal...". This raised a number of important legal and strategic questions for the committees that must be addressed and appropriately reflected in their asset allocation and investment policies.

The basic question was how to distribute investments across various asset classes consistent with the objectives of maximizing income over time, minimizing the risk of losses, and complying with the mandate to protect the appropriated principal of the funds. The reference to investments in "interest bearing accounts, bonds, securities, or other investments" in the U.S. legislation supports the proposition that the funds should be managed in such a way as to balance, in a prudent manner, considerations of earnings potential against inherent market risks, the risks of investment losses, and inflation.

Because this issue is common to endowment funds throughout the United States and Canada, there exists a large body of information of immediate relevance and applicability to the committees' task. In particular, most major colleges and universities have long records of managing permanent endowment funds to support their institutional missions. A comprehensive survey of U.S. college and university endowment funds is performed annually by the National Association of College and University Business Officers (NACUBO). While colleges and universities have spending needs and patterns that will vary from the spending patterns that the Northern and Southern Funds will have, the committees noted that there is much common ground. In particular, the 1999 NACUBO Endowment Study, which included 509 institutions and was based on data as of June 30, 1999, provided relevant and current information for the PSC Funds relative to historic rates of return, spending rates, spending policies, and asset allocation strategies, all stratified by endowment size. An important overall observation is that endowment funds have an approximately 65% to 80% allocation to equities and equity-like securities. This study and related information were summarized and presented to the committees by Hewitt. The committees considered this and other information on similar endowments in the context of the mandates placed on the funds by the trust agreements and the implementing legislation. They also reviewed the historical performance – both short and long term – of various management strategies in relation to relevant benchmarks, such as the S&P 500, the Russell 3000 and the EAFE indices. Furthermore, they commissioned Hewitt to complete an asset-expenditure study to project the expected outcome of different investment policies and spending strategies that take into account the effects of inflation.

As a result of their deliberations, the committees adopted a long-term investment goal for the Master Trust of achieving a minimum annualized rate of return of five percentage points in excess of the average of the Canadian and U.S. Consumer Price Indices. This goal is consistent with the overall investment risk level that the Master Trust could assume in order to maintain the purchasing power of the expenditures, and normally will be assessed over longer time periods, i.e., over four years or more. Using an average of the two Consumer Price Indices appropriately reflects the currency exposure of the assets, which is split evenly between Canadian and U.S. currencies in respect of the North American portion of the portfolio.

To achieve the long-term investment goal, the committees chose an asset mix for the Master Trust that has a bias to equity investments. Risk is controlled by investing in a well-diversified portfolio of asset classes, by investing 60% of the assets in equities and 40% in bonds, and by using only "core" style managers, i.e., managers who avoid speculative, more risky types of investments. This mix of assets falls at the conservative end of the range of endowment funds managed by universities and similar non-profit organizations surveyed and reported in the above-mentioned NACUBO study, a conservatism that the committees deem appropriate given that the Fund is newly created. In the interest of diversification, the 60% equity portion of the portfolio will be comprised of a mix of U.S. and international equities (30% in each) actively managed by investment managers selected for those particular segments of the portfolio. The 40% bond portion of the portfolio will be comprised of 35% Canadian and 5% U.S. bonds, managed passively (i.e., indexed) by a single bond fund manager. This division reflects the committee's determination that U.S. and Canadian bonds perform substantially the same, and that active management of bond funds imparts no real performance advantage relative to passively managed funds. By employing a mix of active and passive management styles, the opportunity exists to outperform specific investment benchmarks while minimizing management costs. These measures also are intended to ensure that returns are not severely impacted by the performance of a particular investment style.

Currency exposure was an additional consideration in the asset mix decision as it was estimated that spending would be split about equally between projects in the United States and Canada. Because the initial asset allocation is somewhat conservative, i.e., more heavily weighted toward bonds than many endowments, the funds can accumulate an investment record and build an earnings cushion against losses. The actual asset mix at any point in time may vary within specified limits from these initial target allocation levels, reflecting the performance of the respective asset classes and cash management requirements. The investment policy includes a formal re-balancing policy to reset the asset mix back to the long-term target on a periodic basis.

The committees formally adopted a statement of investment policies and goals governing the master trust in January, 2001. The statement reflects the asset allocation guidelines described above, and also addresses general investment and administrative objectives, monitoring and control issues, conflicts of interest issues, investment manager oversight provisions, and other pertinent matters. The asset allocation and investment policies and the performance of the fund managers will be reviewed at least annually by the committees.

Expenditure policy. Asset allocation policies must be accompanied by compatible spending policies. Spending too much would erode the buying power of the funds and potentially be inconsistent with the mandate of protecting the principal. Spending too little would protect or build the fund principal but support fewer fishery projects, the purpose for which the funds were established. Over the next several months, the committees will develop appropriate spending policies. These may differ between the two funds, given the distinct salmon resource circumstances in the committees' respective areas of interest. Hewitt has outlined for the committees some general considerations regarding the level and methodology of expenditures typical of endowments with long term time horizons. As previously noted, the committees expect to approve no projects until 2002 at the earliest. Additionally, the committees will focus in the coming months on the extensive tasks of developing criteria and procedures for the acceptance, evaluation and approval of proposals for use of the income to support allowable fishery projects.

Selection of fund managers and fund custodian. The committees have selected managers for the various asset classes. A selection process began in August 2000 and concluded in December 2000. The process involved identifying candidate firms licensed and qualified for managing these types of funds, reviewing their historical performances (rate of return and volatility over the last seven years), considering qualitative factors and interviewing final candidates. For the passive bond fund manager, Barclays Global Investors of San Francisco was selected to manage both the U.S. and Canadian bond portfolios. MFS Institutional Advisors and Putnam Institutional Management, both of Boston, Massachusetts, were selected to manage the U.S. and international equity portfolios, respectively.

The committees also selected an established firm to serve as the custodian of the funds, Royal Trust Global Security Services. The fund custodian actually holds the fund assets that are managed by the portfolio managers. The custodian will provide periodic reports on fund status and administrative services to the funds. In addition, the custodian will track the portion of assets in the Master Trust attributable to each of the Northern and Southern Funds.

Conclusion

Substantial progress has been made to effectuate the bilateral fund provisions of the 1999 Agreement. Although much remains to be done – most notably the development of spending policies and processes for soliciting and reviewing project proposals – the fund committees believe the necessary policies and procedures are now in place to prudently manage the assets of the bilateral funds. Receipt of the FY2001 installment of the funds, expected to occur within a few weeks of the date of this interim report, will permit full implementation of the adopted investment strategies.

Appendix C

Terms of Reference – Scientific Cooperation Committee

1. The Commission hereby establishes the Committee on Scientific Cooperation (Committee), as set out in 1999 Agreement between Canada and the United States relating to the Pacific Salmon Treaty.

2. The Committee shall report to the Commission and consult with its technical committees as appropriate to carry out the Committee's function.

3. The Committee shall consist of four members, two appointed by each Party.

4. Committee members shall be from the scientific community, and have a background in salmon, a broad understanding of scientific processes and experience in addressing complex technical issues.

5. The Committee's mandate shall be to:

   (a) assist in consultation with the scientific and technical committees to the Commission in setting the scientific agenda for the Commission, including identifying emerging issues and subjects for research and monitoring progress;

   (b) monitor the progress of the Parties in enhancing cooperation and consultation on science including such matters as timely data exchange, the development of common assessment models, and scientific and technical exchanges;

   (c) provide support to the scientific and technical committees of the Commission including advising the Commission at its request on the distinction between technical and policy issues, and assisting in arranging peer review evaluation of scientific reports;

   (d) undertake the tasks assigned to it in the agreement on Habitat and Restoration; and

   (e) make recommendations to the Parties on enhancing scientific consultation and cooperation.

6. The Committee shall meet concurrent with the annual meeting of the Pacific Salmon Commission and as may be requested by the PSC from time to time, to address specific tasks that may be assigned to it by the PSC. At the annual meeting, the Committee shall present a oral or brief written report to the Commission addressing those matters identified in Paragraph 5 above, and other matters as may be appropriate.

7. The costs of each Committee member, including fees for service, if any, should be borne by the Party appointing the Committee member.

8. Committee members will be appointed for a two-year term, subject to renewal by the respective Party.

Appendix D

Appointment of Officers for 2000/2001

Effective December 1, 2000, a new slate of officers for the Pacific Salmon Commission was identified as follows:

(a)	Commission Chair	Can.	Ms. Donna Petrachenko
(b)	Commission Vice-Chair	U.S.	Mr. David Benton
(c)	Fraser Panel Chair	Can.	Mr. Wayne Saito
(d)	Fraser Panel Vice-Chair	U.S.	Mr. Dave Cantillon
(e)	Northern Panel Chair	Can.	Mr. Dave Einarson
(f)	Northern Panel Vice-Chair	U.S.	Mr. Kevin Duffy
(g)	Southern Panel Chair	Can.	Mr. Greg Savard
(h)	Southern Panel Vice-Chair	U.S.	Mr. Pat Pattillo
(i)	Transboundary Panel Chair	Can.	Mr. Gordon Zealand
(j)	Transboundary Panel Vice-Chair	U.S.	Mr. Scott Marshall (interim)
(k)	Standing Committee on F&A Chair	Can.	Ms. Donna Petrachenko
(l)	Standing Committee on F&A Vice-Chair	U.S.	Mr. Rollie Rousseau
(m)	Northern Fund Committee Co-Chair	Can.	Mr. John Lubar
(n)	Northern Fund Committee Co-Chair	U.S.	Mr. Jim Balsiger
(o)	Southern Fund Committee Co-Chair	Can.	Mr. Ron Kadowaki
(p)	Southern Fund Committee Co-Chair	U.S.	Mr. Rollie Rousseau

Appendix E

Approved Budget FY 2001/2002

1 INCOME	**(000)**
A. Contribution from Canada	$1,179
B. Contribution from U.S.A.	$1,179
Sub total	$2,358
C. Carry-over from 2000/2001	$ 329
D. Interest	$ 18
E. Other income	$ 0
F. Total Income	$2,705
2 EXPENDITURES	
A. 1. Permanent Salaries and Benefits	$1,571
2. Temporary Salaries and Benefits	$ 298
3. Total Salaries and Benefits	$1,869
B. Travel	$ 114
C. Rents, Communications, Utilities	$ 106
D. Printing and Publications	$ 15
E. Contractual Services	$ 390
F. Supplies and Materials	$ 67
G. Equipment	$ 144
H. Total Expenditures	$2,705
3 BALANCE (DEFICIT)	-
4 TEST FISHING PROGRAM	
A. Forecast Revenues	$1,307
B. Forecast Expenditures	$1,235
C. Forecast Balance	$ 72
5 TOTAL BALANCE (DEFICIT)	$ 72

Appendix F

Pacific Salmon Commission
Secretariat Staff as of March 31, 2001

EXECUTIVE OFFICE

Don Kowal
Executive Secretary

Teri Tarita
Records Administrator/Librarian

Shelley Schnurr
Secretary (term)

Vicki Ryall
Meeting Planner

FINANCE & ADMINISTRATION

Kenneth N. Medlock
Finance and Administration

Bonnie Dalziel
Accountant

FISHERY MANAGEMENT

James C. Woodey
Chief Biologist

Jim Gable
Head, Racial Identification Group

Mike Lapointe
Project Biologist, Sockeye

Bruce White
Project Biologist, Pinks

Keith Forrest
Racial Data Biologist

Maxine Reichardt
Senior Scale Analyst

Holly Anozie
Scale Lab Assistant

Julie Volk
Assistant Scale Analyst

Jim Cave
Head, Stock Monitoring Group

Peter Cheng
Project Biologist, Acoustics

Yunbo Xie
Hydroacoustics Scientist

Ian Guthrie
Head, Biometrics

Doug Stelter
Statistician

Kathy Mulholland
Computer Systems Manager

Andrew Gray
Hydroacoustics Biologist

Pieter Van Will
Test Fishing Biologist (Term)

Appendix G

Membership Lists for Standing Committees, Panels, Joint Technical Committees and other Appointments as of March 31, 2001

1. STANDING COMMITTEE ON FINANCE AND ADMINISTRATION

CANADA	UNITED STATES
Ms. Donna Petrachenko (Chair)	Mr. Rollie Rousseau (Vice-Chair)
Mr. Dave Innell	Mr. David Benton
Mr. Paul Sprout	Mr. Charles K. Walters
	Mr. James Heffernan
	Mr. W. Ron Allen
	Ms. Carol Fuller

Staff: D. Kowal (ex. officio)

Editorial Board

Mr. Tim Young	Mr. Charles K. Walters

Staff: D. Kowal (ex. officio)

2. STANDING COMMITTEE ON RESEARCH & STATISTICS

Dissolved in 1999

Ad Hoc Joint Interceptions Committee

Dissolved in 1999

Ad Hoc Joint Objectives and Goals Committee

Dissolved in 1999

3. FRASER RIVER PANEL

Mr. Wayne Saito (Chair)	Mr. Dave Cantillon (Vice-Chair)
Mr. Murray Chatwin	Ms. Lorraine Loomis
Mr. Mike Griswold	Mr. Robert Suggs
Mr. Terry Lubzinski	Mr. Richard Lincoln
Chief Susan McKamey	
Mr. Larry Wick	

Fraser River Panel Alternates

Mr. Brian Assu
Mr. Paul Ryall
Ms. Lilly Johnson
Mr. William Otway
Mr. Les Rombough
Mr. Stan Watterson
Mr. Ronald G. Charles
Mr. Rob Zuanich
Mr. William L. Robinson
Mr. Patrick Pattillo

4. SOUTHERN PANEL

Mr. Greg Savard (Vice-Chair)
Mr. John Legate
Mr. Wayne Harling
Mr. Basil Ambers
Mr. John Sutcliffe
Mr. Jeremy Maynard
Mr. Patrick Pattillo (Chair)
Mr. Terry R. Williams
Mr. Burnell Bohn
Mr. Peter Dygert
Mr. James E. Harp
Mr. Larry Carpenter

Southern Panel Alternates

Chief Larry Baird Sr.
Mr. Terry Kueber
Dr. Don Hall
Mr. Randy Brahniuk
Mr. Geoff Chislett
Mr. Peter Sakich
Mr. Guy Norman
Mr. Michael A. Peters
Mr. Richard Lincoln
Mr. Keith E. Wilkinson
Mr. Robert Wunderlich
Mr. Randy A. Settler

5. NORTHERN PANEL

Mr. Dave Einarson (Chair)
Mr. Bill DeGrief
Mr. G.E. Shepard
Mr. John Murray
Mr. John McCulloch
Mr. Bruce Shepherd
Mr. Kevin Duffy (Vice-Chair)
Mr. Arnold Enge
Mr. William Foster
Mr. James E. Bacon
Mr. William Hines
Mr. Howard Pendell

Northern Panel Alternates

Mr. John Brockley
Mr. Chris Barnes
Mr. Robert H. Hill
Mr. Rick Haugan
Mr. Scott Marshall
Mr. Dennis Longstreth
Mr. Robert M. Thorstenson
Mr. James D. Becker
Mr. Andrew W. Ebona
Mr. Ronald J. Berg

6. TRANSBOUNDARY PANEL

Mr. Gordon Zealand (Chair)
Mr. John Ward
Mr. Stephen Jacobs
Ms. Yvonne Tashoots
Mr. Ronald Chambers
Mr. Ray Kendell

Mr. Scott Marshall (interim)

7. STANDING COMMITTEE ON SCIENTIFIC COOPERATION

Dr. Richard Beamish
Dr. Laura Richards

Dr. John H. Clark (interim)
Mr. Steve Pennoyer
Dr. David Hankin

8. NORTHERN FUND COMMITTEE

Mr. John Lubar
Mr. Ron Fowler
Mr. Gordon Zealand

Mr. Jim Balsiger (Co-Chair)
Mr. David Benton
Mr. Jev Shelton

9. SOUTHERN FUND COMMITTEE

Mr. Ron Kadowaki
Mr. Don Hall
Mr. William Otway

Mr. Rollie Rousseau
Mr. Arthur Taylor, Jr.
Mr. Larry Rutter

10. JOINT CHINOOK TECHNICAL COMMITTEE

Dr. Brian Riddell (Co-Chair)
Ms. Barb Snyder
Mr. Wilf Luedke
Dr. Jim Irvine
Mr. Bill Shaw
Dr. Brent Hargreaves
Mr. Din Chen

Mr. James B. Scott (Co-Chair)
Mr. Gary R. Freitag
Mr. Edward Bowles
Mr. Alex C. Wertheimer
Dr. Douglas M. Eggers
Mr. Ronald H. Williams
Dr. Gary S. Morishima
Mr. Henry J. Yuen
Mr. Gregg Mauser
Mr. Dave Gaudet
Mr. John Carlile
Ms. Marianne McClure
Dr. John H. Clark
Mr. Scott McPherson
Mr. C. Dell Simmons
Dr. Robert Kope
Ms. Pamela Goodman
Mr. Shijie Zhou
Mr. David Bernard
Mr. Rishi Sharma
Mr. Joseph Polos
Mr. James F. Packer
Dr. Scott Raborn

11. JOINT COHO TECHNICAL COMMITTEE

Dr. Blair Holtby (Co-Chair)
Mr. Richard Bailey
Mr. Bill Shaw
Mr. Ken Wilson

Dr. Gary S. Morishima (Co-Chair)
Mr. James B. Scott
Mr. Robert A. Hayman
Dr. Peter W. Lawson
Ms. Carrie Cook-Tabor
Mr. Jeff Haymes
Dr. John Fieberg
Mr. Sam Sharr

Northern Coho

Dr. John H. Clark
Ms. Michele Masuda
Mr. Leon D. Shaul
Mr. Dave Gaudet

12. JOINT CHUM TECHNICAL COMMITTEE

Mr. Paul Ryall (Co-Chair)
Mr. Wilf Luedke
Mr. Leroy Hop Wo
Mr. Clyde Murray

Mr. Gary R. Graves (Co-Chair)
Mr. Nick Lampsakis
Mr. Steven N. Boessow
Dr. Gary Winans
Mr. Roger Peters

13. JOINT DATA SHARING TECHNICAL COMMITTEE

Ms. Susan Bates (Co-Chair)
Ms. Sue Lehmann
Mr. Marc Hamer
Ms. Amy Morgan
Ms. Lia Bijsterveld

Dr. Norma Jean Sands (Co-Chair)
Mr. Ron Josephson
Dr. Ken Johnson
Dr. Gary S. Morishima
Mr. Mike Matylewich
Mr. Dick O'Connor

Working Group on Data Standards

Mr. Marc Hamer
Ms. Brenda Adkins
Ms. Susan Bates
Ms. Kathryn Fraser

Dr. Ken Johnson
Mr. Ron Olson
Mr. John Leppink
Mr. P. Brodie Cox
Mr. Benjamin W. Gregg

Catch Data Exchange Working Group

Dissolved February 2000

Working Group on Mark-Recovery Statistics

Dissolved February 2000

14. JOINT FRASER RIVER PANEL TECHNICAL COMMITTEE

Mr. Al Macdonald (Co-Chair)
Mr. Leroy Hop Wo
Mr. Al Cass
Mr. Neil Schubert
Mr. Mike Staley

Mr. Michael Grayum (Co-Chair)
Mr. Keith C. Schultz
Mr. Steve Boessow

15. JOINT NORTHERN BOUNDARY TECHNICAL COMMITTEE

Mr. David Peacock (Co-Chair)
Mr. Les Jantz
Mr. R.S. Hooton

Mr. Ben Van Alen (Co-Chair)
Dr. Jack H. Helle
Mr. Phillip S. Doherty
Mr. Glen T. Oliver
Mr. Gary R. Freitag
Dr. Jerome J. Pella
Mr. Paul Suchanek
Mr. Tim Zadina

16. JOINT SELECTIVE FISHERY EVALUATION COMMITTEE

Mr. Blair Holtby (Co-Chair)
Ms. Susan Bates
Ms. Sue Lehmann
Dr. Brian Riddell

Dr. Gary S. Morishima (Co-Chair)
Ms. Marianna Alexandersdottir
Mr. Lee H. Blankenship
Mr. Mike Burner
Mr. Rich Comstock
Mr. Glen T. Oliver
Mr. Ron Olson
Mr. Patrick Pattillo
Dr. Norma Jean Sands
Ms. Annette Hoffmann
Ms. Carrie Cook-Tabor
Mr. Ken Johnson
Mr. Rishi Sharma
Mr. Ron Josephson

17. JOINT TRANSBOUNDARY TECHNICAL COMMITTEE

Mr. Sandy Johnston Co-Chair)
Mr. Pat Milligan
Mr. Pete Etherton

Mr. Scott Kelley (Co-Chair)
Mr. Andrew J. McGregor
Mr. John H. Eiler
Mr. William R. Bergmann
Ms. Kathleen A. Jensen
Mr. Keith Pahlke
Mr. Brian Lynch
Mr. Craig Farrington
Mr. Gordon Wood

17. JOINT TRANSBOUNDARY TECHNICAL COMMITTEE (continued)

Enhancement Sub-Committee

t.b.a. (Co-Chair)
Mr. Pat Milligan
Dr. Kim Hyatt

Mr. Ron Josephson (Co-Chair)
Mr. Eric Prestegard
Mr. David Barto
Mr. Steve Reifenstuhl

18. NATIONAL CORRESPONDENTS

Mr. Tim Young

Mr. Charles K. Walters